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EIT Food is Europe's leading agri-food innovation initiative, with the aim to create a sustainable and future-proof food sector. The initiative is made up of a consortium of key industry players, start-ups, research centres and universities from across Europe. EIT Food aims to collaborate closely with consumers to develop new knowledge and technology-based products and services that will ultimately deliver a healthier and more sustainable lifestyle for all European citizens.

Contents

1. Executive summary

This Guidebook comprises educational materials developed by University of Warsaw as part of the EIT InfraBooster programme. It summarizes the service design methodology used by representatives of scientific organizations that own research infrastructures (RIs) and benefit from EIT InfraBooster to design and commercialize new services based on their RIs.

Scientific organizations in Central, Eastern, and Southern Europe have received significant public funding to establish research infrastructures (RIs). These investments were expected to enhance scientific excellence, intensify industrial collaboration, and reduce disparities in regional innovation performance. Despite these investments, the actual use of these costly, publicly-owned RIs remains limited. The host scientific institutions are concerned about the long-term financial sustainability of RIs and need to explore opportunities to generate revenue through collaborative research and development (R&D) with private sector partners.

Scientists and administrators employed by scientific organizations often lack the necessary skills to actively offer RI-based services or have sufficiently broad networks of contacts to find industrial clients.

The University of Warsaw addresses this gap in professional education by providing capacity building and support to representatives of scientific organizations that own specialist RIs. The goal is to enable them to design and offer innovative services leveraging their existing assets, which include commercially-relevant RIs, coupled with the specialist knowledge and skills of researchers.

EIT InfraBooster brings European scientific organisations closer to the industry, increases the industrial collaboration, international exposure and innovativeness and helps establish new sources of revenue.

The development of InfraBooster methodology resulted from the prototyping, testing and evaluation of its predecessor educational program, EIT Food RIS Research Infrastructure Network, which was successfully implemented in 2021-2022 and supported 16 scientific organisations from 7 countries, and was scaled up as modular InfraBooster training available to larger number of beneficiaries Europe-wide starting from 2023.

This Guidebook describes key steps of the InfraBooster methodology, along with examples of case studies, educational materials and templates. Please be aware that the Guidebook itself is not equivalent to the completed InfraBooster programme. The original InfraBooster course cycle includes lectures, presentations, case studies, team and individual assignments, group discussions, online quizzes, Q&As, and mentoring sessions. The Guidebook and the InfraBooster methodology comprise intellectual property belonging to the University of Warsaw, including the copyrighted descriptions of the course contents, course materials, templates for tasks and assignments as well as the know-how related to the teaching and assessment methods, which had to be codified owing to the formal EIT reporting requirements.

Completing the InfraBooster programme (InfraBooster Foundation and InfraBooster Practitioner) will enable graduates to analyse the value and relevance of RIs owned by scientific organizations for industrial collaboration. They will be adept at finding the competitive edge of RIs ownership, developing RIs-based services, creating marketing and promotion collaterals, and will be ready to approach industrial clients.

All the educational materials presented in this Guidebook are used during the InfraBooster programme (Foundation and Practitioner levels). Throughout the program implementation, educational materials are accompanied by lectures, teamwork, assignments and mentoring sessions.

2. Identification of relevant Research Infrastructures

The first step toward commercializing research infrastructures involves understanding how RIs can be utilized for collaboration between science and industry. The InfraBooster Foundation training addresses these needs by ensuring that participants not only adopt a standardized vocabulary but also gain a clear understanding of the innovative contexts in which research infrastructures can be employed for science-industry collaboration.

The provided materials in this set aid participants in recognizing and articulating how research infrastructures can contribute to organizational transformation and achieve societal impacts. They guide participants in identifying relevant opportunities for the commercial use of RIs. Participants will be able to analyse the value and relevance of RIs owned by scientific organizations in the context of industrial collaboration and revenue generation. The goal is to empower participants with the knowledge and skills needed to navigate the landscape of research infrastructure commercialization effectively.

The InfraBooster Foundation begins with an introductory lecture that specifically addresses key aspects:

- Leveraging research infrastructures (RIs) for knowledge transfer
- How to select research infrastructures (RIs) for knowledge transfer:

This initial session emphasizes the diverse ways in which scientific knowledge can be effectively communicated and applied in real-world contexts. Additionally, it delves into the techniques involved in selecting commercially relevant research infrastructures. These infrastructures should not only be identifiable but also deemed relevant and competitive in the commercial landscape. The objective is to provide participants with a solid foundation, ensuring they understand various ways of knowledge transfer and the strategic identification of research infrastructures with commercial potential (criteria of identifiable, relevant and competitive RIs).

2.1 FADES case study

Two parts of a case study (see Annex 1: case study part 1, Annex 2: case study part 2), presenting a fictional university faculty (FADES) with multiple faculties and institutes, each owning specific research infrastructures and carrying out scientific research in a specific field. The case study offers rich contextual illustration of multiple types of research infrastructures, sources of uniqueness, inspirations for industrial collaboration leveraging the infrastructures as well as diverse modalities of offering services for industrial clients or partners.

Based on the case study of FADES, participants should reflect on and analyse the example RIs relevant to the knowledge presented in the lecture. Group discussions are recommended to facilitate a deeper understanding and exchange of insights among participants.

Assignments for discussion:

- Assignment 1: to identify commercially relevant research areas and opportunities for industrial collaboration of FADES.
- Assignment 2: to analyse one selected unit of FADES and its research infrastructures, identifying the sources of uniqueness, existing and potential target customers/industries, as well as existing and potential ways of making money from the research infrastructures.

For the above assignments, it is possible to use one of the online tools to structure the discussion and group work. As an example, please refer to Annex 3: Mural settings used during the InfraBooster Foundation training.

2.2 Research Infrastructure Selection Sheet

In order to verify that learning outcomes are met by participants, each participant is asked to select and describe one existing research infrastructure owned by her/his scientific organisation, which has the highest potential for commercially oriented science-industry collaboration. The assignment requires participants to analyse available RIs and make their decision based on the specific selection criteria (identifiable, relevant, competitive RIs) while considering the focus areas (products/industry segments, types of industrial operations, research methods), and these aspects correspond to the typologies, tools and models introduced in the training, matching the intended learning outcomes.

Participants are supported in their RIs selection process by a checklist prepared by organizers that outlines a sequence of logical decision steps- (see Annex 4: Research Infrastructure Selection Sheet). This checklist acts as a set of guidelines, reiterating the key training contents and helping repeat/reinforce the knowledge and acquired skills, thus helping participants make informed decisions regarding the suitability of RIs for the R&D efforts of industrial companies. Within the assignment, each participant describes the RIs (not only as the underlying technology, but also key personnel, expertise, equipment, track record of industrial collaboration, importance for local/region economy, etc.), profiles the target customers/industries that might benefit from the RIs, outlines its sources of uniqueness (factors that make the selected RIs relevant for the target customers/industries and ensure the RIs are competitive - better than infrastructures available at other institutions). The analyses culminate with discussion of existing and planned ways of generating revenues from the selected RIs.

2.3 Food Extrusion Hub case study

Before participants start describing their own infrastructure in the context of commercialisation, they have the opportunity to practice this using the **Food Extrusion Hub** as a basis **(see Annex 5: Food Extrusion Hub example).**

Assignment: Participants are tasked with analysing the case of the Food Extrusion Hub,to analyse the case of Food Extrusion Hub and provide comments on the selection of unique research infrastructures of the Hub, suggest improvements, changes in selected infrastructures, arguments about uniqueness of the infrastructure, scientific expertise and services. Additionally, participants are encouraged to discuss the commercial focus, including target clients/industries and the types of services offered by the Food Extrusion Hub.

3. FADES Case Study part 3

Following the initial identification of commercially relevant RIs and awareness building among InfraBooster participants, **part 3 of the FADES case study** (a fictional university faculty) is introduced, and it is attached to this Guidebook as Annex 6: case study part 3. It is built upon the case studies from the previous section and serves as the foundation for team assignments proposed in the following sections. Participants have the opportunity to practice the new concepts and tools introduced during the programme on the case study before starting their assignments based on their own research infrastructure. It is suggested to work on the case study within the teams during workshops concerning: Features & Benefits, Persona Analysis, Value Net Model, Blue Ocean Strategy. All the listed below elements are the integral parts of InfraBooster Practitioner training.

4. Features & Benefits of RIs

Technical and functional features need to be aligned with the potential benefits of RIs services for prospective clients. Participants have the opportunity to learn how to transform these features into particular benefits and refine promotional messages to ensure that potential clients comprehend the added value and promised advantages. Given that specific academic and scientific language might not be easily understood by potential clients, participants must be adept at using language that is both comprehensible and attractive to the business sector when describing research infrastructure. This skill is crucial to effectively engage with business partners and convey the value proposition of the research infrastructure.
Description of features and benefits, including their specifics and guidance on how to apply them to infrastructure, can be found in the attached learning material - ~~Annex 7: Features and Benefits~~.

Assignment: Annex 8 outlines examples of features and benefits are provided, and it is recommended that participants consider reformulating them as part of practical exercises (e.g. in the form of a quiz).

Assignment: Participants are asked to work on features& benefits of FADES. They are provided with a list of features and are tasked to formulate it into benefits understandable by clients. Please see Annex 9: Mural settings used during this assignment.

5. Understanding Customers

Understanding customers is an important element when creating a new service based on research infrastructure. It helps representatives of scientific organizations identify the unique needs and preferences of their target audience, ensuring that the developed service aligns closely with the challenges and goals of future customers. This customer-centric approach not only enhances the relevance and effectiveness of the developed service but also establishes a foundation for long-term business cooperation, culminating in customer satisfaction.

5.1 Persona analysis

This section focuses on systematic approaches to customer analysis, including design thinking and persona analysis, as a means of understanding potential clients of RIs services (jobs, pains, and gains). Persona analysis involves the creation of detailed profiles of possible customers, outlining their characteristics, needs, and behaviours. When developing services for businesses based on research infrastructure, persona analysis helps participants understand the specific challenges and requirements of potential clients. By tailoring services to meet the needs identified through this analysis, participants can make their offerings more relevant and effective, building stronger connections with their target audience in reference to their research infrastructure. This approach is summarised in the educational material - Annex 10: Value proposition, which describes the persona approach and approaches to designing targeted value propositions.

Assignment: Participants are tasked with preparing a compelling value proposition for their RIs based service, which includes pain relievers and gain creators based on prepared template attached as Annex 11.

5.2 Identify relevant industry segment

The next step in understanding customers is segmentation, targeting, and positioning. Participants have the chance to practice selecting target personas and identifying relevant industry segments. Participants can also practice using international industrial classifications NACE2 and PRODCOM to identify relevant industry segments and decide on the economic potential of targets. It is crucial to base the selection of targeting segments on data.

For this section, the following educational materials apply:

- Annex 12: NACE codes - explanation educational material
- NACE codes database link: https://ec.europa.eu/eurostat/web/structural-business-statistics/database
- PRODCOM database link: https://ec.europa.eu/eurostat/web/prodcom

Assignment: To practice working with databases, participants are asked to find the appropriate NACE code for the proposed market fields. Please refer to Annex 13: Mural NACE codes settings used during this assignment.

Assignment: Based on the prepared personas analysis, participants are asked to decide which segment to target initially (1 segment) and which segments to follow (2-3 additional segments). They should describe the segments using NACE and PRODCOM codes, and justify the selection by presenting economic data from Eurostat, if applicable. Participants may also use national statistical databases.

6. Understanding market

Understanding the market is crucial in developing a service as it forms the foundation for establishing a service position among other stakeholders. A comprehensive market analysis helps identify key trends and competitive landscapes, enabling participants to tailor their services to the specific demands of their target audience in relation to potential competition. Moreover, a deep understanding of the market fosters strategic decision-making, enabling the identification of opportunities, addressing challenges, and positioning service optimally within the competitive landscape.

6.1 Value Net Model

The value net model is a highly relevant tool that will help participants better understand their competitive positioning, potential partners and competitors, and define a service offering that will be attractive for their customers. The Value Net Model provides valuable insights into the interplay between these elements, offering a holistic view of the ecosystem surrounding a service based on research infrastructure. Understanding the dynamics of suppliers, rivals, and complementors through this model proves instrumental in making informed decisions and optimizing the overall value proposition of the developed service. This approach is summarised in the educational material- Annex 14: Value net model.

Assignment: Based on the prepared materials and delivered lecture, participants are asked to prepare a Value Net analysis for the service based on their research infrastructure. Participants should analyse and describe the actors in all elements of the value net, including suppliers, rivals, and complementors.

6.2 Blue Ocean Strategy

The next crucial part of InfraBooster training involves developing RIs' own Blue Ocean Strategy (BOS). BOS is a popular approach way to manage innovation, emphasizing uniqueness, differentiation, and what is termed value innovation. A detailed explanation of the Blue Ocean Strategy concept can be found in the educational material Annex 15: Blue Ocean Strategy. Participants are encouraged to view the Blue Ocean Strategy as a way of identifying untapped market spaces for RIs services, including the use of strategy canvas.

Based on the prepared materials and delivered lecture, participants are asked to prepare a Blue Ocean Strategy for the service based on their research infrastructure. It is suggested to use Annex 16: Blue Ocean Strategy template. Participants are asked to start by compiling a table of the strategic canvas for 2-4 selected groups of rivals (each in a separate table), followed by a table specifically for their service. They should use examples of rivals identified while preparing the Value Net Model. It is important to remember that participants' RI-based service should be differentiated from other rivals—lowering (=reduce), raising (=raise), eliminating some, and adding others (=create).

6.3 Elevator pitch

The next crucial step in developing the service involves preparing a convincing elevator pitch that concisely communicates the value and unique proposition of the RIs-based service. This concise presentation is designed to capture the attention of potential customers, providing a brief but impactful overview of the service's key features, benefits, and differentiators. A well-prepared elevator pitch is instrumental in generating interest and facilitating future conversations. A detailed explanation of the Elevator pitch concept can be found in the educational material Annex 17: Elevator pitch.

Assignment: Participants are tasked to formulate elevator pitch to for the new service, based on their research infrastructure. They are asked to follow the format discussed in the materials:

- **For** (target users for whom you would like to deliver your innovation):
- **Who suffer from/need to** (describe the acute problem that the customers are experiencing or a compelling reason to buy).
- **We offer** (service category)
- **That provides** (a key problem-solving capability).
- **Unlike** (the existing alternative),
- **Our product** (describe the key benefits which differentiate your innovation from existing alternatives).

7. Planning communication

Planning communication is principal when reaching out to business clients with developed service, particularly for RIs-based offerings. Designing effective marketing collateral, such as one-pagers and website content, plays a crucial role in conveying a clear and compelling message about the service. It's essential to prepare these materials addressing target audience needs and emphasizing the unique value proposition. Moreover, some companies might be willing to pay to access specialist equipment or to use infrastructure-based services as part of new product development efforts or production scale-up. Nevertheless, they may be unaware of the existence of RIs, the opportunities of using specific equipment for their commercial benefits, or detailed access modalities.

7.1 One-pager

In this section, participants learn how to create attractive promotional collaterals, specifically the one-pager. They are instructed on the essential elements that a well-prepared one-pager should contain. This marketing tool is crucial in effectively communicating key information about the service. A well-prepared one-pager should address one specific segment of customers, for which participants previously conducted persona analysis. The one-pager should also make reference to an identified rival, competitor, or alternative (value-net), include elements of an elevator pitch, and articulate a clear differentiator consistent with the analysis of the Blue Ocean Strategy.
A well-prepared one-page acts as a brief and visually engaging overview of the service. It captures the attention of potential clients and provides them with essential information about the unique value proposition and differentiation of the RIs-based service. The strategic inclusion of persona-specific details and alignment with the Blue Ocean Strategy analysis ensures that the one-pager speaks directly to the identified target audience, making it a basic tool in the communication strategy.

Essential elements of one-pager listed are:

1) Name and logo
2) Headline/tagline
3) About RIs
4) Service snapshot
5) Features
6) Benefits
7) Call to action (CTA)
8) Contact information

Assignment: In the educational material, specifically Annex 18: One-pager examples, participants have the opportunity to examine real one-pagers created by various research institutions. Participants are tasked with analysing these examples, identifying their pros and cons, according to the essential elements listed above.

Assignment: Based on the prepared materials and delivered lecture, participants are asked to prepare a One-pager for the service based on their research infrastructure.

7.2 Outreach plan

Outreach plan describes how participants will share their RI-based service with each target audience in a timely, relevant, and meaningful way and specifies the channels that participants will use to communicate RI offering with each of them.

Essential elements of outreach plan are:

1) Purpose (WHY?)
2) Target audience (WHO?)
3) Message (WHAT?)
4) Communication channel (HOW?)
5) Timeline (WHEN?)

Planning outreach for RIs-based services participants should consider the following points:

- Define personas and segments to target the right audience;
- Craft a well-defined message that aligns with the identified personas and segments;
- Choose communication channels strategically, ensuring they match the preferences and behaviour of the target audience;
- Plan the timeline as it helps implement a cohesive communication strategy, ensuring consistency and engagement over time.

This systematic approach enhances the effectiveness of reaching with potential business clients.

Assignment: Based on the prepared materials and delivered lecture, participants are asked to prepare an Outreach plan for the service based on their research infrastructure. They are asked to use Annex 19: Outreach plan template.

8. Managing client relation

Managing client relation section focuses on the practical aspects of implementing outreach plans using various techniques and initiatives. Participants learn how to put outreach plans into action, actively pursue goals, gather feedback, build relationships, and validate the market potential of the service based on RI. Participants explore how to create a plan for communicating about their service to potential clients and exploring techniques to initiate contact such as cold mailing, cold calling, online platforms (e.g., LinkedIn, forums), social media, and newsletters. Additionally, participants gain insights into the best types of email campaigns and discover how to incorporate AI-based software for more effective messaging strategies.

As a useful supporting tool, Annex 20: Customer Relationship Management (CRM) worksheet is introduced. CRM (Customer Relationship Management) facilitates effective communication with clients in one centralized platform, storing contact information, communication history, preferences, and feedback. It allows tracking and managing clients' interactions across various touchpoints, such as calls, emails, LinkedIn, social media, and in-person meetings. Additionally, it measures client satisfaction, response rates, and communication effectiveness.

As examples of managing client relations, the presented tips include assigning a contact person (Key Account Manager: KAM), participating in innovation hubs or business clubs, creating thematic webinars or workshops, organizing tours or visits to research infrastructure, and sending invitations to key events.

Assignment: Based on the prepared materials and delivered lecture, participants are asked to draft a messaging to one target contact person in a company that represents a specific segment and persona for the service based on their research infrastructure. They are asked to use Annex 21: Messaging assignment template.

9. Final InfraBooster service proposal

Base on the knowledge gained from the previous section and materials, participants can systematically develop services based on their research infrastructure. This involves step-by-step planning and all element preparation, culminating in the final task of preparing a pitch deck and a comprehensive description of a new service proposal. Participants are guided through this process using provided templates, ensuring a well-structured and strategically crafted presentation.

9.1 Pitch deck

A pitch deck is a brief and visually attractive presentation that serves as a snapshot of participants service proposal. It concisely outlines the problem or need research service addresses, the targeted audience, and how the proposed solution effectively meets those needs. Additionally, it highlights the benefits gained by using proposed service, showcases why this offering surpasses alternatives, and provides key insights about the team and research infrastructure. A well-crafted pitch deck is a crucial tool for effectively communicating developed service proposal to potential customers.
Essential elements of pitch deck are:

1) Name and logo of scientific organization/RI
2) The problem or need service addressing
3) Service snapshot
4) Target market and potential clients
5) Competitors/alternatives and service differentiators
6) How participants plan to make money from the service
7) The team
8) Call to action

Assignment: Based on the prepared materials and delivered lecture, participants are asked to prepare pitch deck of developed research infrastructure-based service. They are asked to use Annex 22: Pitch deck template.

9.2 Service proposal

The final service proposal culminates and summarizes the learning and assignments of the InfraBooster training.

Assignment: Participants are tasked with using Annex 23: InfraBooster service proposal template, which consists of five sections:

1. Starts with information about RIs
2. Followed by persons and units involved
3. Details potential clients
4. Includes service claims and differentiators
5. Ends with a communication and engagement strategy.

Participants are encouraged to follow the in-text guidelines provided within the template below each heading and prepare the assignment accordingly.

10. Annexes

10.1 Annex 1 FADES Case study part 1

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Case study FADES – part 1

Author: Krzysztof Klincewicz, University of Warsaw

The **Faculty of Astrology, Divination and Esoteric Sciences**, University of Central Fakelandia (FADES UCF) is the leading European research organization in the field of divination. Divination is an increasingly popular field of research, focused on predicting future developments through significant events, interactions with objects or the use of specialist techniques and expert knowledge.

FADES UCF employs over 120 scientists, technicians and support research personnel. The Faculty participates in multiple technological platforms, innovation clusters and international research consortia. It implements numerous research grants, including projects funded from European framework programs as well as national and regional sources, such as the Fakelandian National Sorcery Centre. Furthermore, it maintains regular outreach to industrial companies in Fakelandia and abroad, resulting in regular contract R&D and analytical assignments, commissioned by companies and public sector organizations. FADES maintains also active international collaborations, encouraging the inbound and outbound mobility of scientists, doctoral students and technicians. Best UCM scientists regularly fly (using aircrafts or other, more unorthodox means of air transportation) to other countries in order to attend the leading conferences in the discipline. Not surprisingly, the Faculty can document the tangible research achievements, with many scientists maintaining the h-index of 666 (according to Google Sorcerer database */ Divinate or Perish* application).

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FADES has four research institutes, as well as one interdepartmental research center and one special research unit:

- **Institute of Geomancy** - specializing in the method of divination that interprets markings on the ground or patterns formed by tossed handfuls of soil, rocks, or sand;
- **Institute of Hydromancy** - dealing with methods of divination by means of water, including also the use of dishes of water (lecanomancy);
- **Institute of Necromancy** - focusing on communication with the dead by summoning their spirits or resurrection;
- **Institute of Osteomancy** - experienced in divination by throwing bones;
- **Interdepartmental Research Centre of Aeromancy** - working with divination conducted by interpreting atmospheric conditions, combining resources of FADES and the Faculty of Physics (in the field of atmospheric physics and meteorological sciences);
- **Special Research Unit of Spheromancy** - team of researchers specializing in divination through visions achieved by means of a trance, induced by gazing at crystals (due to the smaller number of scientists working in this unit and lack of any full professor in this field, spheromancy is not yet represented by a separate institute, but the researchers of the special unit are expected to progress towards professorships and hire additional personnel in the near future).

FADES UCF has extensive expertise in selected areas of divination, but there are also areas which are intentionally deemphasized by the Faculty, owing to the limited availability of qualified experts or strong competitive advantages of other institutions, and this includes in particular the areas of pyromancy and chiromancy.

The scientific excellence of FADES can be attributed to the knowledge, competences and experiences of the research teams. The key enablers are Research Infrastructures (RIs) of FADES.

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The following table characterizes the units of FADES, its personnel and tangible research results, 2019-2022.

FADES unit	No. of scientists	Including: no. of professors	No. of technicians
Institute of Geomancy	21	6	5
Institute of Hydromancy	17	5	7
Institute of Necromancy	18	6	7
Institute of Osteomancy	13	7	6
Interdepartmental Research Centre of Aeromancy	17	3	10
Special Research Unit of Spheromancy	6	0	3

FADES unit	Peer-reviewed publications, 2019-2022	Patent applications, 2019-2022	No. of research grants, 2019-2022	Value of research grants, 2019-2022 (m€)	Revenues from institutional clients, 2019-2022 (m€)
Institute of Geomancy	987	6	17	12.8 m€	0.7 m€
Institute of Hydromancy	834	3	4	11.8 m€	1.1 m€
Institute of Necromancy	666	3	4	6.2 m€	0.3 m€
Institute of Osteomancy	589	4	2	0.9 m€	4.7 m€
Interdepartmental Research Centre of Aeromancy	1293	9	8	21.2 m€	3.2 m€
Special Research Unit of Spheromancy	54	1	1	1.5 m€	2.4 m€

A quick overview of the portfolio of research conducted at FADES, allows readers to identify specific focus areas and types of R&D activities of the Faculty.

10.2 Annex 2 FADES Case study part 2

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Case study FADES – part 2

Author: Krzysztof Klincewicz, University of Warsaw

The **scientific excellence of FADES** (the Faculty of Astrology, Divination and Esoteric Sciences, University of Central Fakelandia) can be attributed to the knowledge, competences and experiences of the research teams. The key enablers are **Research Infrastructures** (RIs) of FADES. These RIs were funded from multiple sources, including the Fakelandian Roadmap for Research Infrastructure (FRRI) compliant with ESFRI, research grants from Horizon 2020, Horizon Europe, European Structural and Investment Funds, as well as ad-hoc national and regional budgets allocated on annual or multi-annual bases. FADES maintains a unique set of laboratories, combinations of technical equipment, software, cloud-based solutions, databases and AI/machine learning tools, even though some pieces of equipment/types of RIs are also available in other scientific or private sector organizations. It important to note that the mere ownership of research infrastructures is not a guarantee of its appropriate and successful use for R&D purposes, and other institutions know well about it. For example, costly equipment purchased by another university in the Eastern part of Fakelandia collects dust: after initial, negative experiences with the equipment resulting in casualties, scientists are afraid of using it, especially since the insurer refused to reimburse the losses of families of researchers who sacrificed their lives in the test-runs of the equipment, citing the specific conditions of their insurance policies. FADES has developed institutional policies, methodologies and equipment usage standards reducing the risks, ensuring standardization and quality control during the divination procedures.

10.3

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Let us overview the expertise and RIs of FADES, describing specific fields of research, which also correspond to individual research units of the Faculty.

They will be presented on the following pages, in accordance with the structure of FADES, which has been discussed in part 1 of this case study:

- **Institute of Geomancy** - specializing in the method of divination that interprets markings on the ground or patterns formed by tossed handfuls of soil, rocks, or sand;
- **Institute of Hydromancy** - dealing with methods of divination by means of water, including also the use of dishes of water (lecanomancy);
- **Institute of Necromancy** - focusing on communication with the dead by summoning their spirits or resurrection;
- **Institute of Osteomancy** - experienced in divination by throwing bones;
- **Interdepartmental Research Centre of Aeromancy** - working with divination conducted by interpreting atmospheric conditions, combining resources of FADES and the Faculty of Physics;
- **Special Research Unit of Spheromancy** - team of researchers specializing in divination through visions achieved by means of a trance, induced by gazing at crystals.

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FADES - Institute of Geomancy

The Institute deals with **geomancy** - the method of divination that interprets markings on the ground or patterns formed by tossed handfuls of soil, rocks, or sand. Markings and tossed materials could be important indicators, allowing experts to address detailed research questions, resolve mysteries and predict future courses of events. Experts typically use geomantic charts to interpret the data, and extensive body of research confirms the effectiveness of geomantic charts in predicting everyday life occurrences, future weather conditions and political events. FADES unit uses specialist software to generate new geomantic charts, based on unique algorithms preserved as technological secrets. The software uses standard image recognition technologies coupled with knowledge of patterns, fed into the application by FADES scientists. It can uncover patterns in photos and make on-the-fly analyzes using phone camera. Furthermore, the geomantic charting functionality can also support the adequate architectural design, urban planning, landscaping or graphical user interface layout. FADES works with clients who commission the Faculty to carry out specific analyzes using the software. In the future, the software could also be made available to external clients but at present, the application interface and operational modalities seem rather complicated for non-expert users.

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FADES - Institute of Hydromancy

The Institute specializes in **hydromancy** - methods of divination by means of water. FADES maintains relevant RIs in this area: a pool of water controlled by sensors and specialist IT equipment, automatically registering parameters of the water such as the color, ebb, flow or ripples produced by pebbles dropped in the pool. The infrastructure called **DiviPool** offers advantages over traditional approaches to hydromantic divination: users do not need to rely on subjective observations and interpretations of the status of water pool. The technology automatically captures parameters of the water pool that could be analyzed using specialist software and exported to statistical tools. This greatly improves the accuracy of predictions, ensures replicability of experiments and supports evidence-based procedures. DiviPool is an important source of revenues for FADES and is used by clients in multiple ways. Other organizations can access DiviPool paying hourly/daily rental fees, and this scenario is attractive for external scientists who are experts in hydromancy but lack the specialist equipment. Less professional user organizations can pay for using the DiviPool with support of FADES scientists, who setup the experiments, oversee the data capture process and prepare interpretations. Finally, FADES can also offer fully outsourced hydromantic process and implement an end-to-end divination using DiviPool, generating final report for the client that would answer specific questions defined for the divination experiments. DiviPool is a genuinely unique research infrastructure, but FADES management is worried about the risk of the infrastructure being imitated by other institutions. In particular, regular and intensive rentals of DiviPool by a specific foreign university suggests that researchers analyze parameters of the equipment with a view to replicate its setup and offer own, competitive services. FADES considers changes to its usage policies of DiviPool, planning to focus on corporate clients rather than other researchers.

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FADES - Institute of Hydromancy (field of lecanomancy)

The Institute of Hydromancy deals also with **lecanomancy** - the form of divination using dishes of water. The university has developed a portable tool **Lecanom** in the form of a bowl with water, which connects via Bluetooth with mobile phones. Dedicated mobile applications developed for Android and iPhone platforms allows its users to practice lecanomanthic divination with automatic capture of parameters of the water in this portable container. Water measurements are stored in the cloud and interpreted by means of machine learning, enhanced by the inputs of expert scientists from FADES (cloud-based DaaS, Divination as a Service). This offers attractive opportunities for users, in particular: less experienced clients from corporate or public sectors. They can use the portable tool in a self-service mode, sending results for cloud-based analysis and receiving interpretations, which leverage insights of FADES scientists. It must be noted that Lecanom has significantly lower reliability than larger-scale hydromantic divination implemented with the direct involvement of scientists and the use of DiviPool, but the results appear satisfactory for many practical use cases. Clients pay initial fees to purchase the tool, combined with monthly subscription fees allowing them to use Lecanom to generate a specific number of predictions, and further fees for each additional prediction.

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FADES - Institute of Necromancy

The Institute dealing with **necromantic** research has embarked on a very specific, highly competitive pathway of expertise development. Necromancy includes widely-known techniques of communication with the dead by summoning their spirits or resurrection, usually highly dependent on individual characteristics and experiences of the person carrying out the experiments. While FADES employs a team of field experts in necromancy, it also intentionally focused its efforts on services that could be more standardized, implemented through dedicated research infrastructures and repetitive methodologies to make the Faculty less dependent on individual, often somewhat whimsical scientists. This is the reason for FADES implementation of **Psychomanteum** - a dedicated laboratory used to communicate with spirits of the dead. FADES' Psychomanteum is an enclosed space (laboratory room), with appropriate lighting, mirrors and furniture, coupled with aromatic infusions, sound effects and 3D hologram projectors. Psychomanteum is regularly rented by individual and institutional clients (commissioning FADES experts to intermediate the necromantic communication), and also used by other universities and vocational education establishments (bringing young adepts of necromancy to learn how to use the techniques) as well as movie makers (eagerly using the elegant design of Psychomenteum as their movie set).

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FADES - Institute of Osteomancy

FADES has established a foothold in the field of **osteomancy** - divination by throwing bones. It can offer interpretations based on the formation or position of bones after being tossed, and potential damages inflicted to bones through the act of throwing. FADES benefits from an innovative implementation of MES (Manufacturing Execution System) technologies involving industrial automation, visual inspection tools, 3D scanners, specialist software and AI-enhanced tools identifying irregularities. The university adjusted the functionality of platforms which are typically used for quality inspection in manufacturing plants. It added its own software layer to capture and interpret data related to characteristics of bones (such as: positions after being tossed, fractions, impacts and speed of movements). The use of specialist equipment leads to a significantly improved control over the osteomanthic parameters, as well as the ability to capture numerous parameters of the process of throwing bones, alongside the outcomes of the throw. This methodology appears superior to osteomanthic predictions based on individual observations and subjective judgments. The FADES infrastructure runs measurements that are compared with results of past divination exercises, so that any predictions are informed by the cumulated knowledge and in the future, might also be enhanced through AI/machine learning (at present, the technology generates measurement outputs and requires users to analyze and compare results, without AI-enabled predictions, but future software developments are planned).

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FADES - Institute of Osteomancy (field of omoplatoscopy/scapulimancy)

FADES Institute of Osteomancy plans to further expand the technology and research competences in the field of osteomancy, exploring also the subfield of **omoplatoscopy/scapulimancy** - divination based on shoulder blades. It has identified several alternative methodologies used by indigenous tribes of Naskapi Innu and Mistassini Cree in America, as well as experts in China, Mongolia and South Africa. There is a strong potential for developing multiple software applications corresponding to each method, and for comparing results based on these not-fully-compatible approaches. FADES wants to develop new software layers for its existing osteomanthic equipment, but will need to identify a relevant funding source (either a research grant, enabling the enhancement of RIs as part of an R&D project, or a dedicated funding for new RIs). The infrastructure development will also need to involve international mobility of scientists and intensive knowledge transfer, including capacity building, acquisition of knowledge from foreign experts (who might not be fluent in English, nor have the knowledge codified, and would need to be compensated for information sharing). The practical implementation of omoplatoscopy is also complicated by the need for reliable supply of bones of specific animal species, depending on the methodology/country of origin of each technique.

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FADES - Interdepartmental Research Centre of Aeromancy

FADES excels in **aeromancy** - divination conducted by interpreting atmospheric conditions. It owns an innovative **aeromantic telescope**, which was customized based on the instructions of the FADES research team. The aeromantic telescope (currently: without any specific brand name) offers continuous monitoring of atmospheric conditions including: wind currents, cloud formations, blizzards and movements of comets, meteors and shooting stars. The supplier of the telescope (foreign company General Magic, Inc.) offers technical documentation and user training, but practical ways of making observations and interpreting the data result from years of experience accumulated by FADES experts and could not easily be transferred to other organizations. FADES UCF derives significant revenues from its aeromantic services. In particular, the university sells three levels of subscription services based on its aeromantic telescope. Level 1 means access to raw data registered by the telescope (suitable for advanced experts in aeromancy). Level 2 subscription offers telescope data with markups, highlighting developments that might be of divination interest (this is the main source of FADES scientific collaborations with other research teams in the field of aeromancy). Level 3 is available for non-expert users and relies on data-based predictions of future developments, prepared in response to specific research questions (service particularly popular among Fakelandian users such as: political parties, religious organizations, boards of banks, insurers and large publicly listed companies).

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FADES - Special Research Unit of Spheromancy

FADES maintains a Special Research Unit dealing with **spheromancy** - divination through visions achieved by means of a trance, induced by gazing at crystals. Unlike mirrors or crystal balls used by other people practicing spheromancy, UCF owns a unique three-dimensional equipment, combining crystalline gemstones, holographic displays and augmented reality technology. Its extensive research confirmed the positive psychological effects of the equipment for the users, including their well-being, enhanced self-confidence and increased levels of motivation. This spheromanthic equipment does not yet have a specific name, but FADES is frequently visited by researchers from all parts of Europe, interested in this unique piece of scientific equipment. Many European institutions have their own spheromanthic devices. The superiority of FADES' infrastructure in this field has not yet been confirmed by independent external research, but FADES plans to attain the status of accredited laboratory of the International Spheromanthic Union.

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10.4 Annex 3 Mural settings InfraBooster Foundation

Breakout Room 1 (purple)	
Institute of Geomancy specializing in the method of divination that interprets markings on the ground or patterns formed by tossed handfuls of soil, rocks, or sand	
What types of research might be carried out by scientists? give examples	traits of the path of ancient populations mineral ressource research remote sensing of earth surface resident and cultural pattern recogination for means of survival and community cultivation
What types of research infrastructure might be used? give examples	fully equipped laboratory with necessary resource infrastructure remote collaboration opportunities/means for co-created research structure e.g in the form of virtual transfers, knowledge sharing systems etc. geo-radar for soil surface scanning UAMs for airborne data collection + optical sensros

Rate from 1 (highest) to 6 (lowest)

Double click in section and rate on sticky note

Research potential (1-6)	2
Commercialisation experiences (1-6)	5
Attractiveness for clients (1-6)	5

Breakout Room 1 (purple)	
Institute of Geomancy specializing in the method of divination that interprets markings on the ground or patterns formed by tossed handfuls of soil, rocks, or sand	
Research Infrastructure (**existing**): **Hardware**	Geomantic charts to interpret the data
Research Infrastructure (**existing**): **Software**	Specialist software to generate new geomantic charts, based on unique algorithms preserved as technological secrets.
Research Infrastructure (**existing**): **Database**	Database on everyday life occurrences, future weather conditions and political events
Research Infrastructure (**existing**): **Others**	
Research Infrastructure (**planned**): **Hardware**	Georadar for soil surface scanning UAMs data collection and optical sensors
Research Infrastructure (**planned**): **Software**	process data analysis tool which aims to facilitate remote collaboration opportunties for co-created research structures i.e in the form of virtual knowledge transfer and sharing systems
Research Infrastructure (**planned**): **Database**	open source system to acquire remote sensing data and enhance collaboration with institutes aiming at similar mission/scope
Research Infrastructure (**planned**): **Others**	
Sources of the uniqueness of the research infrastructure:	1. Standard image recognition technologies coupled with knowledge of patterns
	2.Process data analysis tool for remote collaboration in join action with Open source data base as a central enabler for co-creation
	3
Target customers/industries **benefiting from** the research infrastructure:	Stakeholders both from private and institutional realms such as:
	1. Urban planning
	2. landscape design and civil engineering
	2. mobility
Ways of making money from the research infrastructures:	1. Monetization of Modeling tool as SaaS
	2. Consulting and advisory to regional authorities for strategic urban planning and community culture structures
	3. Security systems for the usage of UAMs

10.5 Annex 4 Research Infrastructure Selection Sheet

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RISS Research **I**nfrastructure **S**election **S**heet

Template developed by University of Warsaw

This sheet forms the basis for selecting the existing research infrastructure of own scientific organisation, using the research infrastructure selection criteria (identifiable, relevant, competitive) and focus areas (foods, industrial operations, methods). Please use this sheet for one specific research infrastructure with the highest potential for commercially oriented science-industry collaboration (ideally, a research infrastructure that you would work on in more advanced level training of InfraBooster).	
PREPARED BY	
RESEARCH INFRASTRUCTURE	
1. Name of research infrastructure	
2. Link to website describing the infrastructure (if available)	
3. Institution, department / centre / institute	
4. Description of the infrastructure	
5. Target customers / industries benefiting from research infrastructure (including focus on specific types of food products, industrial operations, and methods)	
6. Sources of uniqueness (what makes the research infrastructure relevant for the target customers/industries and competitive - better than infrastructures available at other institutions)	
7. Possible ways of generating revenue from the research infrastructure	

Once you have prepared the assignment, please submit the document to Kampus platform as MS Word file or PDF

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10.6 Annex 5 Food Extrusion Hub case study

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RISS Research Infrastructure **S**election **S**heet

Template developed by University of Warsaw

This sheet presents the description of Food Extrusion Hub example, a fictional research infrastructure, controlled by BioAgriTech Institute (a fictional Institute) and prepared by InfraBooster Team at University of Warsaw. Please **review the example** of RIs within your team and based on your understanding of the RIs selection criteria (identifiable, relevant, competitive) and focus areas (foods, industrial operations, methods), **suggest improvements or changes** to the selected sections of the example, as indicated below. **Notes:** • the fictional example of Food Extrusion Hub by no means is an ideal description of RIs and intentionally prepared in a way that participants could suggest further improvements or changes. • the example of Food Extrusion Hub RIs based on the **RISS** Research Infrastructure **S**election **S**heet aimed to prepare participants of the Foundation level training for final individual assignment where they require to describe one specific research infrastructure at own institute with the highest potential for commercially-oriented collaboration with industry.	
PREPARED BY	Mansour Esmaeil Zaei / InfraBooster Team at University of Warsaw
RESEARCH INFRASTRUCTURE	
1. Name of research infrastructure	BioAgriTech Institute (fictional example)
2. Link to website describing the infrastructure (if available)	www.bioagritech.edu/foodextrusionhub (fictional example)
3. Institution, department / centre / institute	Food Extrusion Hub (fictional example)
4. Description of the infrastructure	BioAgriTech Institute is a renowned market-oriented research institute that specializes in product development, process development and analytics solutions relevant to food system companies. It employs over 150 scientists, technicians and support personnel, offering a wide range of expertise, alongside infrastructure-based services. It actively participates in technological platforms, innovation clusters and international consortia, and these experiences have led to regular contract R&D and analytical

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	assignments, commissioned by companies. This is particularly evident from the Institute's strong track record in collaboration with companies—it has successfully established a cluster of 84 companies from the food industry and related fields that have regularly been using the Institute's services since 2004. Services offered by BioAgriTech include: process development (design, construction and manufacturing of machinery), novel process technologies (e.g. extrusion, shockwave, 3D-printing, robotics), processing of alternative proteins, meat, chocolate and dairy products, and consumer science. It also offers professional training programs on quality management, feed manufacturing and food extrusion.
Review the description of Food Extrusion Hub and suggest up to three improvements or changes to make it more identifiable for the industry: (bullet points)	•
5. Target customers / industries benefiting from research infrastructure (including focus on specific types of food products, industrial operations, and methods)	Target customers/industries of Food Extrusion Hub are food producers intrested in optimising existing products or implementing new product ideas through recipe and process development, product design, thermal/chemical modification, structure development, shaping, and trials using extrusion techniques. This include cooking extrusion (snacks, cereals, pet food, textured vegetable protein - TVP), high moisture extrusion (meat analogues, hybrid products), cold extrusion (pasta products) and low temperature extrusion (ice cream).
Review the description of target customers / industries and focus areas of Food Extrusion Hub and suggest up to three improvements or changes to make it more relevant RIs for the industry: (bullet points)	•
6. Sources of uniqueness (what makes the research infrastructure	Food Extrusion Hub is a unique RIs that maintained by BioAgriTech Institue, established based on the funding

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relevant for the target customers/industries and competitive - better than infrastructures available at other institutions)	coming from the European Structural and Investment Funds (ESIFs). It combines proprietary, custom-made and standard technical equipment, expert knowledge and unique intellectual property (IP) with the use of specialist software that allows to design, calculate, and simulate various product recipes, structures, and shapes (optimising existing products or realising new product ideas). Furthermore, the Hub maintains key accreditations and adheres to essential industry standards such as ISO 9001, GMP, FSSC 22000 and HACCP, ensuring compliance and excellence within the food industry. Even though some pieces of this equipment are also available in other scientific or private sector organizations, the mere ownership of RIs is not a guarantee of its appropriate and successful use for R&D purposes. Since other institutions may not possess the same expert knowledge, lack access to unique IP controlled by the BioAgriTech Institute, and have yet to establish a strong track record of collaboration with companies.
Review the sources of uniqueness of Food Extrusion Hub and suggest up to three improvements or changes to make it more competitive and better RIs for the industry than RIs available at other institutions: (bullet points)	•
7. Possible ways of generating revenue from the research infrastructure	Food Extrusion Hub is an important source of revenues for BioAgriTech Institute and is used by clients in multiple ways as follows: 1. Access to infrastructure: other organizations/companies can access Hub infrastructures paying hourly/daily rental fees, and this scenario is attractive for external scientists who are experts in food extrusion/ or companies' R&D experts who are concerns with trade secret (e.g. new product recipe/design) but lack the specialist equipment. 2. Collaborative R&D: less professional user organizations/companies can pay for using the infrastructures with support of BioAgriTech Institute

	experts, who setup the tests on different extruders, oversee the recipe and process design, and also support trails with specific recipe modification and feasibility studies for scale-ups. 3. Contract R&D: BioAgriTech Institute also works with clients who commission the Hub to carry out full product recipe and process development or product design using its infrastructures by means of contract R&D. 4. Analytical services: Hub offers regular and on-demand training programs on food extrusion to students, scientists and experts from companies. Looking ahead, the BioAgriTech Institute plans to launch training programs based on virtual reality, enabling them to reach a wider and larger target audience. 5. Consultancy services: Hub's experts provide support for the on-site setup of extrusion lines to companies and scientific organizations [Note: services for scientific organizations are delivered only to organisations that sign non-compete agreements - NCAs] 6. "One-stop shop": for start-ups and small companies, the Institute offers a complete package of services that includes training staff in food extrusion, new product formulation/design and development, feasibility studies for scale-up, and toll manufacturing.

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10.7 Annex 6 Case study FADES part 3

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InfraBooster Practitioner – Case study FADES part 3

Author: Krzysztof Klincewicz, University of Warsaw

DiviPool is unique research infrastructure available at Institute of Hydromancy of the Faculty of Astrology, Divination and Esoteric Sciences (FADES), University of Central Fakelandia. **FADES** is the leading European research organization in the field of divination. Its Institute of Hydromancy focuses on divination by means of water, including lecanomancy (the use of dishes of water).

The Institute employs 17 scientists, including 5 professors. In 2019-2022, it registered 834 peer-reviewed publications, 3 patent applications, 4 research grants with the total value of 11.8m€, and revenues from institutional clients of 1.1m€.

DiviPool is a pool of water controlled by sensors and specialist IT equipment. The infrastructure offers major advantages over traditional approaches to **hydromantic divination**, because it uses scientific methods to register parameters of the water such as the color, ebb, flow or ripples produced by pebbles dropped in the pool. DiviPool standardizes the measurements and eliminates subjective observations, typical for traditional hydromantic practices. This greatly improves the accuracy of predictions, ensures replicability of experiments and supports evidence-based procedures.

Infrastructure design

DiviPool is a **circular pool** with the diameter and the depth meaningful for divination experts. It is filled with water sourced from a nearby spring, which is associated with important events in the Fakelandian mythology (the water is considered sacred).

Stones are thrown into the pool by means of an industrial robot resembling the construction of a trebuchet. It is automated and offers full control of the throw's **parameters** (including angles, segmental mass and release velocity).

Users of DiviPool can select specific **types of stones** that are thrown, including beach pebbles, gravel, rocks and fanglomerates. FADES offers the possibility of using specific stones from its extensive collection. Scientists use pebbles regularly sourced from seaside locations in Greece and rocks from the nearby Fakelandian mountains, but depending on the experimental design, stones from other sources can also be used.

The setup of experiments allows users to simulate specific **external environmental conditions**, including air and water temperatures, wind and air pressure. For more sophisticated experiments, scientists aim to replicate environmental conditions representing specific real-world places and times

of the day/year. They also maintain a database of settings from selected places that are considered sacred or otherwise relevant for divination experiments, and these settings can be used as input variables while defining DiviPool experiments.

Measurements

DiviPool technology automatically captures **parameters of the water surface** following the stone throw. The measurements are based on **tribology**: studies of surfaces interacting in motion, including the aspect of friction with lubricated materials (here: considering air and water as lubricants). DiviPool is a tribosystem, which controls **input parameters** such as load, velocity, temperature, duration, disturbances and allows the capture of **output variables** such as motion, rotation, force, torque or changes in mechanical energy.

The analyses are supported by the computational fluid dynamics (CFD), with Navier-Stokes equations and stochastic differential equations (SDE) derived from the studies of pedesis or Brownian motions. Measurements of the DiviPool surface are informed by the principles of interferometry. Users can also register observable parameters of the water surface such color, ebb, flow and ripples.

Pebbles recovered from the DiviPool can also have their **wear rates** measured - but the use of this option requires human operators of DiviPool to remove pebbles/wear debris (in such cases, automated pumps/skimmer baskets that are normally used in DiviPool need to be turned off as they might influence the wear rates of pebbles).

Remote control

DiviPool operations are **remotely controlled** and used without the physical presence of human operators in the DiviPool's room, so the operators do not directly interfere with the experimental results.

All parameters of DiviPool experiments are defined in a **mobile application** running on Android (phones or tablets) or within a web browser interface on personal computers.

The software allows users to define various **settings of experiments** (including inputs such as: parameters of pebbles, throw, external environment, frequency and repetitiveness of the experiments).

The defined parameters can be **saved** and **imported** into the application for repeated experiments. The entire experimental process in DiviPool can be handled remotely from any place on the earth that has access to the application, but the access is protected by two-factor password and biometric logins. The automation of DiviPool does not require physical presence of FADES employees on the premises, so scientists are able to work with clients while visiting their offices or demonstrate research results on-the-fly during scientific conferences or corporate meetings.

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Output data

Results of DiviPool experiments are collected in a cloud-based **relational database** and users can export them in multiple formats.

The supported **file types** include statistical packages: SPSS, Stata, EViews, SAS, R, jamovi, JASP, MATLAB, Orange, as well as productivity tools including Microsoft Excel, OpenOffice, Microsoft Power BI and Tableau. The most common research routine of FADES scientists involves export of the DiviPool experimental data to the open-source statistical package jamovi, which can be freely installed by FADES clients, but FADES scientists can help clients transform data into practically any known format. DiviPool software platform also offers an **API** (Application Programming Interface) that enables integration with other specialist software and more granular control over data import and export operations.

The team of DiviPool experts from FADES can generate **reports** for clients in Microsoft Office formats. Their predictions can be presented in **visually attractive layouts**, including logos of clients and thematic images. Such documents appeal to many non-expert clients, who might not understand the underlying scientific principles or statistical parameters but expect a concise and convincing way of summarizing the findings. Scientists are often asked to prepare short **texts summarizing** the tested hypotheses, research results and interpretations, without specialist terminology.

Design of experiments

DiviPool is used to plan and carry out **statistical experiments** in the field of hydromantic divination.

The easiest approach is the use of DiviPool to test a **single hypothesis** (divination that verifies a 'yes/no' question, but the infrastructure can also be used with more **complex experimental designs**.

FADES hydromantic experts help clients **define the adequate hypotheses** and **operationalize variables** used in the experimental design. This support includes approaches to randomization, minimum numbers of required observations and settings for benchmark observations.

FADES clients usually don't understand the advanced statistics of experimental designs or parameters defined and measured by hydromantic scientists. DiviPool software supports the **decision making** in a stepwise manner, but its use still requires some degree of specialist knowledge. For non-expert clients, **checklists** are offered in the software interface to help answer introductory questions and suggest **default parameters** of the experiments, based on which FADES scientists define detailed hypotheses and select the most suitable experimental designs.

Billing

DiviPool has an integrated **billing functionality**, offering calculations of the **usage per** minute, hour, instance of use/experiment, number of dropped pebbles and quantity of water spilled by the dropped pebble. FADES currently uses only standard billing per minute or hour of use, but the technology offers

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also more complex options. Billing is linked to the API (Application Programming Interface) and can be integrated with external payment platforms, which might enable pay-per-use for external users and setup of experiments triggered by other systems, with minimal involvement of FADES operators (FADES calls this approach „**divination on the fly**").

DiviPool is an important **source of revenues** for FADES. Clients include **non-professional users** and **external scientists** specializing in hydromancy, who do not own the specialist equipment. FADES can also offer an **end-to-end divination process**, starting with the analysis of client requirements, definition of research problems and hypotheses, operationalisation of variables, design of experiments, data capture, interpretation and report drafting. This is the most profitable scenario of service delivery, with clients paying one-off fees based on quotations prepared by FADES.

Maintenance

DiviPool is **fully automated** by means of industrial robots and the experiments do not require on-site presence. FADES employees need to supervise regular **maintenance tasks** including the removal of pebbles (extraction by means of automated pumps and skimmer baskets), water filtering, skimming the surface of the water, vacuuming and brushing the pool walls. DiviPool water requires regular measurements of pH, calcium hardness, alkalinity and phosphate levels. Maintenance protocols include also the sanitization of DiviPool water to stop the growth of algae or bacteria.

DiviPool room maintains specific **temperature, humidity and air pressure**. These parameters are modified for certain experiments, but need to be stabilized again once the experiment is finished. This involves the use of an **energy recovery ventilation system** and specialist equipment that can influence the **temperature of water** and increase its **circulation**. DiviPool equipment requires also a regular supply of **spare parts** for the mechatronic/robotic equipment that wear off in the course of experiments, with key components imported from a foreign company.

Themes of experiments

Hydromantic experts help clients define specific research questions from **various domains of life**, which include:

- **politics** (election results, likelihood of citizen support for certain legislative initiatives);
- **economics** (inflation, currency exchange, revenues and costs forecasting, return on investment);
- **family life** (matching couples, chances of compatibility/splitting/divorce, time of birth and gender of the future child);
- **health** (occurrence of specific diseases, likelihood to survive a life-threatening disease);
- **insurance** (likelihood of health-endangering accidents, life expectancy);
- **psychology** (predictions of certain personality traits and other personal characteristics of people).

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Results can also be validated by experts from **Fleocia University**, which is another well-established name in the field of hydromancy, partnering with FADES. Clients can have Fleocia's scientists interpret the results of measurements and prepare their independent report. Hypotheses and results could also be prepared with the involvement of **domain experts** from the field of: political sciences, economics, psychology, medicine, sociology and statistics, working at **other faculties** of the University of Central Fakelandia.

Alternatives

DiviPool is a genuinely **unique** research infrastructure, but the management of FADES Institute of Hydromancy is increasingly worried about the risk of the infrastructure setup being imitated by other institutions. In particular, regular and intensive rentals of DiviPool by a specific foreign university suggest that other researchers might try to analyze parameters of the equipment with a view to replicate its setup and offer own, competitive services.

Institute of Hydromancy encounters also **internal competition** and service cannibalisation within FADES, because other institutes of the Faculty approach the same clients, offering **alternative divination techniques**.

Non-expert clients might not understand the benefits of hydromancy compared with less scientifically grounded approaches such as geomancy, necromancy or osteomancy, which are being aggressively promoted and delivered at much lower costs than the services based on DiviPool.

Hydromancy is also practiced by **semi-professionals**, who do not own research infrastructures but merely throw pebbles into lakes or ponds, using primitive techniques that are not scientifically proven or replicable, but still respond to the informational needs of some clients.

10.8 Annex 7 Features and Benefits

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InfraBooster Practitioner – Features & Benefits

Your customer is not asking: "why?", but: "what will I get out of this?"

In this module, we will carefully consider what exactly an organization does and how it delivers value to its customers. It appears surprisingly challenging to understand what the customers actually value. Key offerings that are relevant for clients may not be obvious to the organization's employees. In particular, we will discuss the difference between **features** and **benefits**.

A customer thinks about solving her or his problems, not about buying a specific product or service. The purchase or implementation of a product/technology is not an end in itself. The customer is willing to pay for a solution to a specific problem, such as satisfying hunger or aesthetic needs, increasing productivity or reducing energy intensity. We will look at examples of **features** (which usually do not appeal to the buyers' imagination, e.g. due to technical language) and **benefits** (which can effectively persuade a purchase, e.g. by referring to the issues the buyer is thinking about when looking for solutions to his or her problems).

By the way, please note the important distinctions in terminology – they might be useful in your future InfraBooster journey:

- User is a person or an organization that uses a specific product or service (not necessarily buying it – e.g. children do not buy toys but they use them).
- Buyer is a person or an organization that purchases a specific product or service (not necessarily using it – e.g. parents buy snacks for children).
- Customer is a person or an organization that purchases and uses a specific product or service (although some people use the term 'customer' interchangeably with 'buyer').
- Client is a person or an organization that purchases a professional service (e.g. legal, consulting or research services).
- Consumer is a person that purchases and uses a specific product or service.
- End consumer is a person that purchases and uses a specific product or service strictly for personal consumption (i.e. not to share with other family members or friends).

The decision whether to work with consumers or industrial customers translates into two different sales approaches:

- B2C means business-to-consumer: offering products or services to consumers.
- B2B means business-to-business: offering products or services to industrial customers.

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Food producer might operate in B2C model, selling food products to end consumers in shops, or focus on B2B and produce goods that will be purchased and branded by retailers, used by food producers as ingredients/components of their own offerings, or sold in bulk to industrial buyers (e.g. annual supply of coffee beans used by company's office workers, products delivered as part of catering services, chocolates and sweets used by the customer organization as promotional gifts).

FEATURE	BENEFIT
The product is based on technology that uses a higher concentration of substance x.	The purification process is faster and more efficient than in previously available technologies. (This benefit will appeal even more to the customer's imagination if we provide quantifiable differences in speed and efficiency, expressed in terms of parameters that the customer can understand - without them, the statement may appear unreliable.)
The technology implementation requires only one room of x area (surface).	The use of the technology reduces the rental costs of the space needed for the technology by an average of y € or certain %. (This statement means that we know the space rental costs and space requirements of alternative technologies and that we are able to document these differences on request.)
The solution has been tested by independent laboratories and can operate failure-free.	The solution does not require constant supervision by the company's staff, which reduces its operating costs. (Your customers will of course expect you to present evidence – such as detailed results of these tests – and verify the credibility of the laboratories).
The device consumes less electricity than all comparable devices available on the market.	The device saves energy, thereby reducing the operational costs and protecting the environment. (The benefit will become even more convincing when the savings are quantified - without such details, the statement may seem implausible.)

It is worth remembering that the **features** of a solution are usually its technical parameters, described in the documentation, while the **benefits** describe the specific effects that can meet the needs of the customer and deliver customer value. If we only list product features in our marketing materials, all the work of finding out "*what does this feature give me?*" rests on the shoulders of the customer. The customer might not have the time or the will to do this – (s)he will go to the supplier, who serves it all "on a platter" and clearly explain the **benefits** of buying the product or service. In such a case, not only are we not exploiting our sales potential, we are also intentionally limiting it ourselves!

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Let us look at examples of everyday products. A ceramic knife is an expensive kitchen item which, to many people, may seem like an unnecessary expense. To make the purchasing decision easier, knives from the Korean brand *Ceramic Life* are sold with a summary of their features and benefits.

© Ceramic Life

© Ceramic Life

The sole presentation of the **features** of the ceramic knife itself does not sound very convincing - but the description of the linked **benefits** should be of interest to anyone who prepares food!

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Portable digital media players have many, often quite complex and intimidating technical **features**. However, skillful marketing experts try to present the **benefits** linked to these features to their customers.

FEATURE	BENEFIT
Flash memory	The device is shockproof and there is no disk that would be destroyed in the event of a fall
Capacity of 128 GB	Approximately 30,000 songs can be stored on the player
Mini Jack headphone output	When the headphones wear out, they can easily be replaced by any headphones with the standard plug
Supported media formats MP3, WMA, WAV, OGG, AIFF, AAC, ASF, AVI, FLV, MKV, MOV, MP4, MPG, XVID and OGG	The device can play songs and videos in multiple common file formats
Recording function	Capture unforgettable moments at any time
Built-in FM radio	You can listen to your favourite radio programmes on the move
USB slot	Seamlessly transfer files from your song and video collection between the player and your computer
Size of a matchbox	The player fits easily into your pocket
Weight: 50 grams	No extra burden for the user to carry around
Manufactured from materials that do not contain mercury, arsenic or polyvinyl chloride	Users are not exposed to hazardous substances and benefit from an environmentally friendly product
4000 mAh battery	The player allows continuous media playback for at least 24 hours without the need to recharge the battery

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Let's now consider the benefits related to this (fictional) company and features listed below....

FEATURE	BENEFIT
We have been operating in this market for 10 years	
We have been operating in this market for 2 years, having previously worked in the field of X	
We have worked for 78 satisfied customers	
We have worked for 2 satisfied clients	
We employ 30 high-class specialists	
We employ 3 high-class specialists	
We deliver services 24 hours a day, 7 days a week (24/7)	
Our solutions are tailor-made for each customer	
Our solutions are standardized and mass-produced	
Technology is certified based on independent tests	
Technology is protected by patents in the United States and in the European Union	
A key component of the device has a lifespan two to three times longer than components of devices offered by competitors	
The product is based on purely European solutions and does not contain components imported from China	
The device is operated in an intuitive manner	
The solution ensures compliance with regulations/standards/standards of X...	

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The size of the device allows it to be operated in a room with a surface area of ...	
The technology can be implemented as a portable (mobile) installation	
The device consumes less electricity than comparable devices from competitors	
The solution allows energy savings of ...kWh per year	
Computer software generates reports with the results of the device operations	
Sample report templates are bundled with the computer software	
The software allows users to easily customize the user interface	
Users can modify the process flow without any programming	
The solution is integrated with the SAP system platform	
The system is capable of performing 12,000 calculations per minute	
The calculation algorithm minimizes the use of computer memory/RAM	
The application supports authentication using smart cards	
The application can be enhanced by scripts written in the VBScript language	
The system exports data in XML format	
Our restaurant offers a secluded, candle-lit meeting room	
Our restaurant serves Mexican cuisine, prepared using original ingredients imported from Mexico	

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InfraBooster Practitioner – Features & Benefits

Your customer is not asking: "why?", but: "what will I get out of this?"

In this module, we will carefully consider what exactly an organization does and how it delivers value to its customers. It appears surprisingly challenging to understand what the customers actually value. Key offerings that are relevant for clients may not be obvious to the organization's employees. In particular, we will discuss the difference between **features** and **benefits**.

A customer thinks about solving her or his problems, not about buying a specific product or service. The purchase or implementation of a product/technology is not an end in itself. The customer is willing to pay for a solution to a specific problem, such as satisfying hunger or aesthetic needs, increasing productivity or reducing energy intensity. We will look at examples of **features** (which usually do not appeal to the buyers' imagination, e.g. due to technical language) and **benefits** (which can effectively persuade a purchase, e.g. by referring to the issues the buyer is thinking about when looking for solutions to his or her problems).

By the way, please note the important distinctions in terminology – they might be useful in your future InfraBooster journey:

- User is a person or an organization that uses a specific product or service (not necessarily buying it – e.g. children do not buy toys but they use them).
- Buyer is a person or an organization that purchases a specific product or service (not necessarily using it – e.g. parents buy snacks for children).
- Customer is a person or an organization that purchases and uses a specific product or service (although some people use the term 'customer' interchangeably with 'buyer').
- Client is a person or an organization that purchases a professional service (e.g. legal, consulting or research services).
- Consumer is a person that purchases and uses a specific product or service.
- End consumer is a person that purchases and uses a specific product or service strictly for personal consumption (i.e. not to share with other family members or friends).

The decision whether to work with consumers or industrial customers translates into two different sales approaches:

- B2C means business-to-consumer: offering products or services to consumers.
- B2B means business-to-business: offering products or services to industrial customers.

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10.9 Annex 8 Features and benefits examples

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InfraBooster Practitioner- features and benefits

Examples (quiz session 1)

Introduction

Feature	Benefit
infrastructure located on the premises of FADES in the capital of Fakelandia	services easily accessible for visiting clients, with access to the airport, hotels and office buildings in the convenient location in the capital of Fakelandia
infrastructure developed and exploited by the Institute of Hydromancy of FADES, the leading research organisation in the field of divination	services offered by a reliable, experienced and prestigious scientific organization
combines a pool of water, sensors and specialist IT equipment	services based on a sophisticated, complex and modern research infrastructure
uses scientific methods to register parameters of the water such as the color, ebb, flow or ripples produced by pebbles dropped in the pool	clients can rely on results of divination experiments that are carried out based on established scientific methods
standardizes the measurements and eliminates subjective observations, improves the accuracy of predictions, ensures replicability of experiments and supports evidence-based procedures	clients can trust in the results that are based on standardized measurements, replicable and evidence-based

Infrastructure design

Feature	Benefit
circular pool with diameter and depth meaningful for divination experts	users can use the pool of water that was designed in a shape meeting the standards of hydromantic divination and will thus be more suitable for divination experiments than other natural or man-made pools
filled with water sourced from a nearby spring, which is associated with important events in the Fakelandian mythology and the water is considered sacred	users can run experiments with water that is considered sacred and thus important for divination purposes, and the water is easily available and fresh, since it's sourced from a nearby location

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stones thrown by means of an industrial robot resembling the construction of a trebuchet and the automation offers full control of the throw's parameters (including angles, segmental mass and release velocity)	users can control and adjust parameters of the stone's throw to make decisions about detailed setup of the divination experiment
users can select types of stones that are thrown and stone options include beach pebbles, gravel, rocks and fanglomerates	users can plan the divination experiment in accordance with their needs, using various types of stones depending on how they want to design the experiment
possibility of using specific stones from FADES collection (stones from seaside locations in Greece or nearby Fakelandian mountains)	users do not need to bring own stones but can use stones already available from FADES to increase their convenience, and there are diverse sources of stones available (with local and imported stones)
depending on the experimental designs, stones from sources other than Greece or Fakelandia can be used	users can adjust the experimental settings and use untypical stones from their own sources if needed
option to replicate environmental conditions representing specific real-world places (including air and water temperatures, wind and air pressure)	users can carry out divination experiments with conditions imitating specific real-world places to reduce costs and eliminate the need of physical visits to distant places
option to replicate environmental conditions representing specific times of the day/year (including air and water temperatures, wind and air pressure)	users can carry out divination experiments with conditions imitating specific times of the day/year without the need of waiting for a specific date to capture the desired experimental results
settings from selected places that are considered sacred or otherwise relevant for divination experiments can be used as input variables for experiments and are stored in a FADES database	users can carry out divination experiments with conditions imitating specific sacred or otherwise relevant places, using settings of these places stored in a FADES database, so that users do not need to collect data on environmental conditions of the target places by themselves

10.10 Annex 9 Features & Benefits FADES Case Study part 3

Breakout Room 1 (purple)	
Feature 1	Combines a pool of water, sensors and specialist IT equipment.
Benefit - your answer *(double-click on a cell and start writing)*	Obtaining high-frequency data, possible cost saving on staff
Feature 2	Uses scientific methods to register parameters of the water such as the color, ebb, flow or ripples produced by pebbles dropped in the pool.
Benefit - your answer *(double-click on a cell and start writing)*	Obtaining scientifically proven data, provide accurate and precise measurements, possibility to perform predictive analysis
Feature 3	Standardizes the measurements and eliminates subjective observations, improves the accuracy of predictions, ensures replicability of experiments and supports evidence-based procedures.
Benefit - your answer *(double-click on a cell and start writing)*	Reliability, ensuring comparability, eliminating human-biased opinion
Feature 4	Stones thrown by means of an industrial robot resembling the construction of a trebuchet and the automation offers full control of the throw's parameters (including angles, segmental mass and release velocity).
Benefit - your answer *(double-click on a cell and start writing)*	Ensuring consistency, replicability, reliability of data gathered
Feature 5	Users can select types of stones that are thrown and stone options include beach pebbles, gravel, rocks and fanglomerates.
Benefit - your answer *(double-click on a cell and start writing)*	Customised, varied experiences. User engagement into cngaging and adapting experiences based on their preference.
Feature 6	Possibility of using specific stones from FADES collection (stones from seaside locations in Greece or nearby Fakelandian mountains).
Benefit - your answer *(double-click on a cell and start writing)*	Experience can be customised to a specific needs with a particular focus
Feature 7	Depending on the experimental designs, stones from sources other than Greece or Fakelandia can be used.
Benefit - your answer *(double-click on a cell and start writing)*	We can offer customisation, flexibility for specific experimental needs. Also serving for highly detailed experimental needs.
Feature 8	Option to replicate environmental conditions representing specific real-world places (including air and water temperatures, wind and air pressure).
Benefit - your answer *(double-click on a cell and start writing)*	We can provide pilot conditions/ real-life simulation, product testing.
Feature 9	Option to replicate environmental conditions representing specific times of the day/year (including air and water temperatures, wind and air pressure).
Benefit - your answer *(double-click on a cell and start writing)*	We can provide pilot conditions/ real-life simulation with diversity of specific conditions.
Feature 10	Settings from selected places that are considered sacred or otherwise relevant for divination experiments can be used as input variables for experiments and are stored in a FADES database.
Benefit - your answer *(double-click on a cell and start writing)*	Cultural context can be used for experiments

10.11 Annex 10 Value proposition

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InfraBooster Practitioner Session 2 – Understanding customers

The approach to designing value proposition is inspired by design thinking and a specific tool called "Value Proposition Canvas", proposed by Alexander Osterwalder. As part of InfraBooster Practitioner, we have simplified the approach and adjusted to specific conditions of scientific organizations and research infrastructures.

Personas are personifications of your potential customers. It means that they represent your customers, with their most important and typical characteristics. The analysis of personas is often more convenient than discussions with real customers: it's easier to talk about everyday challenges and expectations of a hypothetical persona than complain about one's own problems.

You need to carefully consider what personas you select - the personas should be representative, match the type of customers you actually work with and have their typical characteristics (so please don't try to develop fancy, exotic personas - they could be surprising and entertaining, but might not prove useful for your strategic purposes).

Once you understand the characteristics and specific situation of your persona, you are ready to think about the persona's expectations. We propose to structure your analysis as three elements: customer **jobs**, **pains** and **gains**.

Customer **jobs** are things that the persona regularly does - things that are potentially challenging, problematic, and hopefully could be addressed by your proposed solution. These **jobs** might concern everyday private life, professional tasks or emotional burdens, anything that you consider relevant for the persona, repetitive, linked to everyday challenges or expectations. Pains are negative experiences - problems linked to the everyday jobs, potential risks, fears and apprehensions. Gains are in turn expected benefits, things that would make the customer satisfied.

Let's look at a specific example. Imagine that your persona is the **building manager** of a university faculty.

The building manager has a long list of **jobs**, including:

- ensuring the availability of utilities, including water, heating and lighting
- maintaining the building cleanliness and ensuring proper maintenance standards
- ensuring the safety of students and scientists
- making sure that the temperatures of the premises remain within the prescribed limits (also in cold winters and hot summers)
- optimizing the costs of goods, services and consumables purchased for the building maintenance (incl. spare parts, toiletries, lighting etc.)
- supervising the work of cleaning services to ensure appropriate cleanliness standards

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You might be able to add further jobs to this list - especially as the person will also have the private life and:

- picks up a child from the kindergarten every day at 4 pm
- every morning drives to the university by car with other family members and spends ~90 minutes in traffic jams
- has a large mortgage on the house and thus is dependent on the current employer, willing to continue the work
- listens to podcasts about accounting tips and tricks on the way to and from the office

The university building manager will have specific **pains**:

- frequent failures of installations, maintenance problems and regular repairs
- damage of buildings and equipment caused by students and visitors
- regular cleanliness challenges, particularly in the restrooms (which become dirty quickly during the school day, but the contracted cleaning services work only once per day, in the evenings)
- price increases for goods and services, including maintenance materials, spare parts and consumables such as toiletries
- budget restrictions imposed by university management
- requirements to purchase goods and services in accordance with public procurement procedures (often resulting in slow decision-making, prices higher than in regular shops, or making certain purchases impossible)
- inadequate communication competences or personal culture of some subordinates or service providers (causing their conflicts with students and scientists)

If you also consider the private life, you would probably think in addition about additional **pains**:

- problems whenever she or he has to stay in the office longer than expected because the child needs to be picked up from the kindergarten

Next step of the analysis is focused on the **gains** - expectations that the customer has, things that would make her or his life easier:

- as few technical problems in the building maintenance as possible
- good relations with subordinates and service providers
- positive feedback from university management, scientists and students
- optimizing budget spent on building maintenance to enable additional investments
- more time for planned work, less time spent on last minute interventions

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Once we understand the challenges and expectations of the persona (**jobs**, **pains** and **gains**), we can think **how to address them**. Our products or service would act as **pain reliever** and **gain creator**. **Pain reliever** should directly address the pains: reduce or eliminate the inconveniencies. **Gain creators** offer further benefits that match some of the expected gains.

For example, when we think about the personal of university building manager, our service could be "outsourced support for building maintenance" - ensuring regular supply of consumables, eliminating the need for many small purchases and offering constant monitoring of utilities and cleanliness 24 hours per day, 7 days per week ("24/7" as marketing professionals would say). Of course, it's just a hypothetical example - such a service might not be feasible for many universities due to budgetary restrictions, but in such cases - this additional **pain** should also be included in the description of the persona, and hopefully it would induce even better ideas for new services.

By understanding customer **jobs**, **pains** and **gains** and by proposing certain **pain relievers** and **gain creators**, you formulate a specific **value proposition**: new ways of offering value for your customers. The **value proposition** will be different for each type or segment of customers - that's why we work with several personas, each representing a different customer segment, with individually identified **jobs**, **pains** and **gains**. The process will help you better understand your potential customers, think what is important for them and what be considered a nuisance. Design thinking experts call this "empathizing" - putting yourself in the shoes of your potential customers, trying to understand how they thing and feel, what types of fears, frustrations or obstacles they face and what are their aspirations, needs and wants.

10.12 Annex 11 Persona assignment template

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InfraBooster Practitioner Session 2 – Individual assignment 2.1

- Please prepare this assignment considering the specific service, using **research infrastructure of your scientific institution** that was **described in your team's application** to InfraBooster Practitioner.
- **Together with your other team members**, start by identifying several types of potential industrial clients who might use the service.
- **Each team member** should prepare the individual assignment for one persona, corresponding to one type of client.
- **Your individual inputs will be used by your team** to further decide about the target segments, describe these segments using economic data and justify the final selection of clients who would be approached in the future.

Name of the author: (InfraBooster Practitioner participant)	
Name of the scientific institution: (InfraBooster Practitioner participant)	
Industry segment of the persona:	
Persona's name:	
Age:	
Household:	
Place of living:	
Daily activities: (private)	
Daily activities: (professional)	
Jobs: (things done regularly by the persona)	1) 2) 3) 4) 5)
Pains: (problems regularly faced by the persona)	1) 2) 3)

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	4) 5)
Gains: (expectations of the persona, things that would make her/his life easier)	1) 2) 3) 4) 5)
Pain relievers: (reduce or eliminate the inconveniences)	1) 2) 3) 4) 5)
Gain creators: (offer further benefits)	1) 2) 3) 4) 5)

10.13 Annex 12 NACE codes

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InfraBooster Practitioner session 2- NACE classes

NACE stands for "statistical classification of economic activities in the European Community" (French: *Nomenclature statistique des activités économiques dans la Communauté européenne*). It's a standard set of codes that identify industries and types of business activities. NACE is used as the basis for national economic statistics in various countries, sometimes with local names (e.g. Poland: "PKD", Romania: "CAEN", Spain; "CNAE", Netherlands: "SBI" etc.). NACE is widely used in Europe and differs from NAICS (North American Industry Classification System), SIC (Standard Industrial Classification) or the ISIC (International Standard Industrial Classification of All Economic Activities).

NACE is the basis for compiling economic data in national statistical offices and Eurostar. Commercial databases of companies allow you to identify companies for a specific NACE code. Each company registration document lists also details about the primary and secondary NACE codes, describing the activities of the company. NACE classification is regularly updated - most countries use currently "NACE Rev.2" (second revision of NACE, adopted in 2006), but further, minor enhancements were introduced in 2023 as "NACE Rev. 2.1" and will be widely used starting from 2025.

You can download the official NACE description here:
https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

Some selected NACE codes are listed below:

- A1 - Crop and animal production, hunting and related service activities
- A3 - Fishing and aquaculture
- C10 - Manufacture of food products
- C11 - Manufacture of beverages
- C20 - Manufacture of chemicals and chemical products
- C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations
- C28 - Manufacture of machinery and equipment
- G46 - Wholesale trade, except of motor vehicles and motorcycles
- G47 - Retail trade, except of motor vehicles and motorcycles
- I56 - Food and beverage service activities
- M75 - Veterinary activities
- N82.9 - Business support service activities n.e.c. [including packaging]

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If we decide to look for specific type of food producers, we would further explore the code C10 ("Manufacture of food products"), which includes:

- C10.1 - Processing and preserving of meat and production of meat products
- C10.2 - Processing and preserving of fish, crustaceans and molluscs
- C10.3 - Processing and preserving of fruit and vegetables
- C10.4 - Manufacture of vegetable and animal oils and fats
- C10.5 - Manufacture of dairy products
- C10.6 - Manufacture of grain mill products, starches and starch products
- C10.7 - Manufacture of bakery and farinaceous products
- C10.8 - Manufacture of other food products
- C10.9 - Manufacture of prepared animal feeds

Each sub-code can also be further divided - e.g. let's assume that we are interested in C10.5 ("Manufacture of dairy products"):

- C10.5.1 - Operation of dairies and cheese making
- C10.5.2 - Manufacture of ice cream

NACE classification description explains what type of companies are included:

> ***"10.52 Manufacture of ice cream***
> *This class includes:*
> *manufacture of ice cream and other edible ice such as sorbet*
> *This class excludes:*
> *activities of ice cream parlours, see 56.10"*

If we are looking for meat producers, we have:

> ***"10.13 Production of meat and poultry meat products***
> *This class includes:*
> *production of dried, salted or smoked meat*
> *production of meat products: sausages, salami, puddings, "andouillettes", saveloys, bolognas, pâtés, rillettes, boiled ham*
> *This class excludes:*
> *manufacture of prepared frozen meat and poultry dishes, see 10.85*
> *manufacture of soup containing meat, see 10.89*
> *wholesale trade of meat, see 46.32*
> *packaging of meat, see 82.92"*

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Let's have a look at another example - C10.7 (“Manufacture of bakery and farinaceous products”), consisting of:

- C10.7.1 - Manufacture of bread; manufacture of fresh pastry goods and cakes
- C10.7.2 - Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes
- C10.7.3 - Manufacture of macaroni, noodles, couscous and similar farinaceous products

You might want to carefully browse the NACE lists because companies of your interest might be listed in unexpected parts of the NACE structure, e.g.

- even though beverages are covered by code C11, you will also find C10.3.2: “Manufacture of fruit and vegetable juice” and C10.8.3: “Processing of tea and coffee”, and growing of crops used for the beverages will also be placed elsewhere (A1.2.3: “Growing of citrus fruits”, A1.2.4: “Growing of pome fruits and stone fruits”, A1.2.7: “Growing of beverage crops”)
- if you look for companies specialized in spices and condiments, your first choice would be C10.8.4 (“Manufacture of condiments and seasonings”) but there is also A1.2.8 (“Growing of spices, aromatic, drug and pharmaceutical crops”)

NACE codes will be very useful in your future commercial endeavors because you will be able to use standard “economic language” identifying potential customers. You will understand with whom you want to work, collect statistical data about this market segment or generate contact lists. You will also be able to discuss your focus with national or regional authorities, including people responsible for the Research & Innovation Smart Specialization Strategy.

Once you identify the NACE codes of interest, you can also collect statistical data about the industry segments in specific countries. National statistical offices and Eurostat present various data series divided by NACE codes.

As an example, Eurostat's SBS (Structural Business Statistics) summarize various economic variables for each NACE code on the country basis:

https://ec.europa.eu/eurostat/databrowser/view/SBS_SC_OVW__custom_7030014/default/table?lang=en

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In the example below, you see data for NACE code C10.7 ("Manufacture of bakery and farinaceous products") - number of companies, total turnover and number of persons employed.

Enterprise statistics by size class and NACE Rev.2 activity (from 2021 onwards)
(online data code: SBS_SC_OVW)
Source of data: Eurostat

Settings:

Table | Line | Bar | Map

INDIC_SBS / GEO	Enterprises - number	Turnover or gross premiu...	Persons employed - num...
European Union - 27 countries (from 2020)	149 815 (p)	125 865.6 (p)	1 486 690 (p)
Bulgaria	2 763 (p)	800.9 (p)	25 870 (p)
Czechia	4 233 (p)	1 743.5 (p)	33 192 (p)
Estonia	267 (p)	224.4 (p)	2 872 (p)
Greece	9 045 (p)	2 594.6 (p)	57 581 (p)
Spain	11 562 (p)	9 449.6 (p)	101 682 (p)
Croatia	1 572 (p)	714.9 (p)	20 697 (p)
Italy	: (u)	21 004.7 (p)	169 054 (p)
Cyprus	482 (p)	406.2 (p)	6 997 (p)
Latvia	381 (p)	206.4 (p)	4 827 (p)
Lithuania	948 (p)	446.6 (p)	9 205 (p)
Hungary	2 316 (p)	1 267.2 (p)	27 819 (p)
Malta	279 (p)	84.3 (p)	1 856 (p)
Poland	8 695 (p)	6 146.6 (p)	114 669 (p)
Portugal	5 796 (bp)	1 649.0 (bp)	34 610 (bp)
Romania	5 859 (p)	2 343.1 (p)	67 214 (p)
Slovenia	863 (p)	405.8 (p)	5 515 (p)
Slovakia	1 324 (p)	704.3 (p)	13 445 (p)
North Macedonia	981 (p)	135.2 (p)	7 216 (p)

Special value:
(:) not available

Available flags:
(bp) break in time series, provisional
(ep) estimated, provisional
(pu) provisional, low reliability
(c) confidential
(p) provisional
(u) low reliability

Eurostat database includes many other tables presenting economic data divided by NACE codes, which you can find by browsing different parts of the database:

https://ec.europa.eu/eurostat/web/main/data/database

For example, here you can find an interactive table that presents statistics about companies divided not only by NACE codes and countries but also regions:

https://ec.europa.eu/eurostat/databrowser/view/SBS_R_NUTS06_R2/default/table?lang=en

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Another useful resource is **PRODCOM** - database of sold production, exports and imports:

https://ec.europa.eu/eurostat/databrowser/view/DS-056120/legacyMultiFreq/table?lang=en

PRODCOM allows you to understand the values of specific production within a country, imports of a given product and national production exported to other countries. The database is based on NACE codes but is even more detailed and the entire classification currently includes as many as 4,701 codes.

For example, we have previously looked at NACE code C10.7 ("*Manufacture of bakery and farinaceous products*"), which included:

- C10.7.1 - Manufacture of bread; manufacture of fresh pastry goods and cakes
- C10.7.2 - Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes
- C10.7.3 - Manufacture of macaroni, noodles, couscous and similar farinaceous products

In PRODCOM, the classification of NACE C10.7 is more detailed and includes the following types of products:

- Fresh bread containing by weight in the dry matter state <= 5 % of sugars and <= 5 % of fat (excluding with added honey; eggs; cheese or fruit) [10711100]
- Cake and pastry products; other bakers' wares with added sweetening matter [10711200]
- Crispbread [10721130]
- Rusks, toasted bread and similar toasted products [10721150]
- Gingerbread and the like [10721230]
- Sweet biscuits; waffles and wafers completely or partially coated or covered with chocolate or other preparations containing cocoa [10721253]
- Sweet biscuits (including sandwich biscuits; excluding those completely or partially coated or covered with chocolate or other preparations containing cocoa) [10721255]
- Waffles and wafers with a water content > 10 % by weight of the finished product (excluding ice cream cornets, sandwiched waffles, other similar products) [10721257]
- Waffles and wafers (including salted) (excluding those completely or partially coated or covered with chocolate or other preparations containing cocoa) [10721259]
- Matzos [10721910]
- Communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products [10721920]
- Biscuits (excluding those completely or partially coated or covered with chocolate or other preparations containing cocoa, sweet biscuits, waffles and wafers) [10721940]
- Savory or salted extruded or expanded products [10721950]
- Bakers' wares, no added sweetening (including crepes, pancakes, quiche, pizza; excluding sandwiches, crispbread, waffles, wafers, rusks, toasted, savory or salted extruded/expanded products) [10721990]

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- Uncooked pasta, containing eggs (excluding stuffed or otherwise prepared) [10731130]
- Uncooked pasta (excluding containing eggs, stuffed or otherwise prepared) [10731150]
- Couscous [10731200]

The PRODCOM numbers listed in brackets - e.g. "[10711200]" are directly linked to NACE codes but more detailed (NACE: C10.7.1 + additional identifiers "1200"). For each type of products, you can generate statistics indicating the value of production, imports and exports in a given country. In this way, you may discover very promising market segments for your services!

PRODCOM database includes the following variables that might be of interest for you:

- EXPVAL – Export value (€)
- IMPVAL – Import value (€)
- PRODQNT – Production quantity (units)
- PRODVAL – Production value (€)

Using the variables, you can also calculate the average unit price (€) (PRODQNT/PRODVAL) and value of products consumed within the country (PRODVAL – EXPVAL + IMPVAL). In some countries, you will notice large production quantities but low average unit prices, which implies that the local producers offer relatively cheap and unsophisticated products, while not necessarily suitable for your specialist services based on research infrastructures.

In your InfraBooster journey, you will select and prioritize customer segments and the use of NACE codes and PRODCOM data will be particularly important for you and your team. NACE codes help you define whom exactly you plan to approach with your service offerings. PRODCOM provides additional justifications because you can use the quantitative data to prioritize types of companies by the existing scale of production, sales, exports, average prices and potential to make money by offering them specialist services.

10.14 Annex 13 Mural NACE codes

Breakout Room 1 (purple)

Description	Answer (NACE2 subclass)
Slaughterhouses processing beef/cows	10.11 Processing and preserving of meat
Producers of sausages and salami based on chicken and turkey meat	10.13 Production of meat and poultry meat products
Producers of frozen french fries	10.31 Processing and preserving of potatoes
Producers of roasted salted peanuts	**10.85.1** Manufacture of other food products or 10.39 Other processing and preserving of fruit and vegetables
Producers of rape-seed oil	10.41 Manufacture of oils and fats
Producers of fish oil (incl. cod liver oil, whale and seal oil)	**10.41.0** Manufacture of vegetable and animal oils and fats.
Producers of pasteurized milk	10.51 Operation of dairies and cheese making
Producers of tapioca	10.62 Manufacture of starches and starch products
Producers of breads	10.71 Manufacture of bread; manufacture of fresh pastrygoods and cakes
Producers of couscous	10.73 Manufacture of macaroni, noodles, couscous and similar farinaceous products
For NACE2 subclass that includes: • **Producers of couscous** **please check:**	
Number of business enterprises in Italy, 2021	3627
Persons employed in Italy, 2021	27583
Net turnover in million euro in Italy, 2021	8685,53

10.15 Annex 14 Value net model

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InfraBooster Practitioner Session 3 – Value net model

The value net model is a highly relevant tool that will help you better understand your competitive positioning, potential partners and competitors, and define a service offering that will be attractive for your customers. The model was proposed by Adam Brandenburger and Barry Nalebuff in their famous book about co-opetition: strategies combining competition and cooperation. It allows you to analyze the external environment of your organization.

In business terminology, the term "external environment" refers to tendencies, conditions, forces, institutions and players surrounding your organization. Management experts differentiate between the macro- and micro-environments. Macro-environment encompasses broad tendencies, which are not controlled by your organization but strongly influence its operations. The most typical framework used to analyze the macro-environment is called PEST - list of tendencies identified in the Political, Economic, Socio-cultural and Technological environment. Micro-environment refers to specific organizations and conditions that can also be influenced by your organization, including customers, competitors and various market conditions. A popular approach to micro-environmental analyzes is the identification of stakeholders: individuals or organizations that "have a stake" in what your organization is doing. Another example is Michael Porter's five forces model. For our purposes, we will use the value net model by Brandenburger and Nalebuff, because it nicely fits the purposes of InfraBooster, stimulates strategic thinking and allows you to consider various players that should not be overlooked when thinking about innovative services based on research infrastructures.

Value net model includes 5 elements: your organization, customers, suppliers, rivals and complementors.

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The analysis of **customers** has already been discussed in previous module of InfraBooster Practitioner, so you will hopefully be able to easily identify and profile them. Let's focus on the remaining groups of players.

Suppliers are organizations and individuals that supply you with resources that are needed to offer your services (here: specialist Research & Development services, based on your research infrastructure). They will probably include:

- suppliers of your research infrastructure
- suppliers of utilities used to operate the infrastructure (e.g. electricity, water, gas, heating, cooling, air conditioning, sewage)
- suppliers of spare parts, consumables, IT equipment, software and maintenance services for your infrastructure

The list of suppliers might be quite extensive, but probably only some of them will really be relevant for your future sales strategies and the selection will depend on specific circumstances of your organization, your research infrastructure and services offered.

For example, in some cases you will be highly dependent on infrastructure suppliers if the infrastructure involves licensing agreements that stipulate certain usage scenarios (e.g. you might be allowed to use it for educational purposes or for scientific, non-commercial research, or only be allowed to use it for services delivered to customers from a specific country). In many cases, some utilities become essential bottlenecks that limit the service capacity or your ability to offer commercial access to research infrastructure (think about equipment that consumes a lot of energy or water, or its usage generates significant industrial wastewater outputs that influence your cost structure).

Public sector organizations such as universities and research institutes might not be fully flexible when it comes to selection of suppliers. Public procurement regulations typically oblige you to identify potential suppliers through public tenders or other forms of competitive procurement. For some sources of supply, such processes are time-consuming and centralized on the level of the entire institution - e.g. the whole university has a multi-annual agreement with electricity company or supplier of certain consumables, stipulating upper thresholds of supply, the selection of these suppliers took months and their contracts could not be easily amended, but your institution might not have anticipated while signing these contracts that you would need to exceed the supply threshold if you start offering commercial services. A good understanding of relevant supply conditions is important for your service development and will allow you to anticipate potential risks, consider factors influencing costs of services and prepare a compelling sales proposition for potential customers.

Rivals are organizations that limit the value of services that you would like to offer for your customers. Please note that the concept of rivals in the value net model is much broader than traditional competitors. Competitors are usually considered organizations that offer similar (comparable, competitive) services for the same group of customers. Rivals include also many other types of organizations, which altogether distract your potential customers, limit their interest in your service, lower the added value of your offering and make it less attractive for the target market.

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Understanding the difference between competitors and rivals is essential to adequately implement the value net model in strategic management. Let's start with **an example of a specific product**: a product line of **UHT milk**, sold in sterile packages that have shelf life of several months, can be kept on supermarket shelves without refrigeration and are sterilized using a specific technological process called UHT (ultra-high-temperature processing). UHT milk is typically sold in tetrahedral paperboard cartons (offered among others by Tetra Pak). For a company selling a specific product line of UHT milk, let's enumerate their rivals, starting with the most obvious groups but going further in the strategic considerations:

- **direct competitors** - other product lines offering UHT milk in the country of operations of the company
- **potential competitors** - companies offering UHT milk in other countries that are likely to enter our country and engage in direct competition (we are aware of their existence if they already offer other product lines in our country, are present in shops and could easily expand their product portfolio)
- **indirect competitors** - companies offering other types of milk (incl. flash pasteurized milk, unpasteurized milk, condensed milk, powdered milk)
- **direct substitutes** - companies offering products that could replace milk and respond to the same needs of customers (e.g. plant-based beverages used instead of milk derived from soy, oats or nuts, powdered coffee-creamers, or dairy-based products that may substitute milk in some dishes incl. yoghurt and sour cream)
- **indirect substitutes** - companies offering products that address the needs of customers in other ways (if milk is served as breakfast beverage, its indirect substitute could be orange juice; if milk is added to coffee, consider coffee-based drinks that use other ingredients, e.g. espresso mixed with tonic or an ice cream scoop; milk used for cooking or baking is substituted by various dairy-free products depending on the specific recipe, e.g. by using bananas, peanut butter or blended oats)
- **rivals in the distribution channels** - think about products that compete with UHT milk for the same shelf space in convenience stores, because they are also your rivals (merchandisers are representatives of producer companies visiting retail stores to ensure the adequate supply and display of their products, and depending on the negotiation skills of merchandisers, UHT milk cartons will have more or less shelf space than cartons with eggs, bottled water or juice - depending on the country, local traditions and approaches of retail networks, one could identify relevant rivals for UHT milk - companies with products placed typically next to the milk cartons)
- **rivals competing for the same resources** - such as ingredients, raw materials, employees (e.g. in a country with limited supply of milk, producers of UHT milk will be strongly competing for the milk supply with companies producing yoghurts, ice cream or other dairy-based products; in some markets, there might also be strong competition for the supply of specialized packaging, skilled personnel or logistics services)
- **other "trouble makers"** - organizations that make your life (and sales) more difficult and decrease the value added for your customers (e.g. non-governmental organizations promoting

animal well-being and vegan lifestyle or government organizations that financially support supply of dairy-free drinks to school pupils), journalists criticizing milk producers etc.

All the above groups of stakeholders are rivals and should be considered in the strategic analysis, but of course only selected players will be really relevant for a specific company. It's important to start the analysis by identifying as many types of players as possible, so that you don't overlook a potential threat to your operations!

For scientific organizations offering services based on research infrastructures, you should probably consider the following types of rivals:

- **direct competitors** - universities, research institutes and companies offering comparable R&D services (by the way, we hope that InfraBooster Practitioner helps you propose R&D services that will be genuinely innovative so you will not have direct competitors!)
- **potential competitors** - organizations that might offer comparable R&D services (because they have comparable research infrastructure and knowledge, or are currently lacking the equipment but could purchase it and leverage their relevant experiences)
- **indirect competitors** - organizations offering similar types of services (using slightly different types of equipment or scientific methods, which will still yield comparable results so that your industrial customers would often not be able to distinguish between your offering and the other options, especially if they don't have specialist knowledge)
- **direct substitutes** - organizations offering services that could replace your offering and respond to the same needs of your customers (e.g. your service might use mass spectrometry while the substitute service would liquid chromatography or ultraviolet detection, promising customers to generate comparable results based on fundamentally different techniques) – adequate identification and profiling of direct substitutes will prove essential for future, successful sales of your services because you need to explain to your potential industrial customers what are the differences between your service and these substitutes, and why they should work with you instead of selecting the substitutes – and this might be difficult because the underlying fields of science, technology and equipment used for these services might be quite different from your current expertise!
- **indirect substitutes** - organizations offering services that address the needs of customers in other ways (if your service is supposed to support product development in certain industries, indirect substitutes would be other services that are also procured by new product development teams, including user experience studies, market research or technological profiling - other services that can take a share of your customer's budget and limit the funding available for your services)
- **rivals in the distribution channels** - the identification depends on how you plan to promote your service and your rivals could be other research teams from your home institution (because you compete for the attention of innovation brokers, technology transfer experts, website administrators or editors of organizational newsletters), organizations that attend the same industry fairs and conference as you, or are featured in the same magazines and online portals

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- **rivals competing for the same resources** - they become important if your service depends on limited supply of ingredients, raw materials or skilled employees (e.g. your highly qualified team of technicians and scientists could leave the organization and join another employer)
- **other "trouble makers"** - organizations that decrease the value added for your customers, e.g. by discouraging them from working with your organization, spreading misinformation about the usefulness of scientific methods, questioning certain fields of research

Finally, you also need to identify **complementors** - organizations and individuals that add value to your offerings and make it more attractive for your customers. Complementors include:

- **suppliers of complementary goods and services** - e.g. milk is consumed with coffee, cocoa, breakfast cereals, pudding, fruit in milk-shakes, and suppliers of all these complementary products are your potential partners, with whom you might consider joint promotion, combined sales (product bundling), or lobbying campaigns to increase the consumption of milk
- **other supporters** - e.g. non-governmental organizations or governmental authorities promoting the consumption of milk, doctors and journalists informing the wide audiences about the nutritional benefits of milk, social media influencers, chefs and cooks, promoting dishes using milk and all other players that can be considered your "friends", because in the long-run they contribute towards promotion of your product or service.

Don't be surprised when the same organization acts both as a rival and a complementor - the authors of the value net model described such cases as **co-opetition**: competing and collaborating at the same time.

The value net model will help you decide how to define your service offering - with whom exactly you should collaborate, or which products and services will complement your offering.

10.16 Annex 15 Blue Ocean Strategy

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InfraBooster Practitioner session 3- Blue Ocean Strategy

An important part of your InfraBooster journey will be the development of your own **Blue Ocean Strategy (BOS)**. BOS is a very popular approach to innovation management, focusing on uniqueness, differentiation and so-called value innovation. The concept of BOS is usually discussed for consumer products. The metaphorical red ocean is a place of typical competitive battles, with many companies trying to offer products to the same group of customers, and a lot of "blood" spilled to attract customers and limit the options available to competitors. Red oceans suffer from price wars - one company reduces prices, others have to follow and every company makes less and less money, with products sometimes sold even at prices below cost, just to keep customers. Companies are also afraid of customer churn - customers moving from one supplier to another to benefit from better prices or other conditions - think e.g. about mobile telecommunication provider and customers switching from one company to another if they see attractive subscription prices.

Nobody wants to engage in **red oceans** - it's difficult to survive, customers look for price bargains, are not loyal to suppliers nor appreciate their products. You will spot a red oceans when:

- there is not much difference between products coming from various companies (e.g. you can buy a yoghurt from company X or company Y, both have similar ingredients and comparable prices) - such products often become commodities
- companies are not able to differentiate themselves (e.g. by building strong, recognizable brands so customers don't want to buy a product from a very specific brand/company)
- there are no technological or functional innovations so all products remain similar
- companies are desperate to acquire customers and retain them/keep them loyal (e.g. they might offer discounts or special offers just to keep customers happy), in popular language you can call this "cut-throat competition", so not surprisingly the red ocean will be really bloody!

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And now let's think about the **blue ocean** - a quiet place far away from the brutal, blood-soaked competitive struggles. Place where your product is perceived as unique, highly differentiated, is not directly compared with products offered by competitors. In the blue ocean, you don't need to worry about customers leaving you and switching to other products, because you are unique. Your customers are also avid followers, who believe in the added value that you offer.

You do not need to play the competitive game in the red ocean - let's drift away from your rivals and find yourself a safe place in the blue ocean, by differentiating your offerings and making sure that your customers understand how unique you are. Sounds suspicious? Seems like a religious sect? Well, the concept of Blue Ocean Strategy is exactly about creating the impression of uniqueness and exclusivity, positioning your product in such a way that you are not endangered by competitors and thus, you could ask relatively high prices from your customers.

The BOS was proposed in 2004 by W. Chan Kim and Renée Mauborgne, who analyzed successful strategies of various companies. To create your Blue Ocean, you need to... stop competing. Instead of competition, let's think how to **create totally new value** and ensure that your customers understand that your offering is **so unique that it does not make sense to compare it with other available options**.

Examples? When Apple created its first **iPhone**, the smartphone market has already been mature. There were many phones with Windows or Symbian operating systems, small keyboard, touch screens and sophisticated software running on the limited processing power of the phone. And yet, Apple managed to create a "cult" product, very expensive at the time of its initial launch, and highly desired by millions of customers. Those "iPhone believers" would not ever consider competitive smartphones - that's a clear sign that Apple created its BOS!

Another example of BOS is **Netflix**. When the company started its video-on-demand service, it was even difficult to say who they compete against. Was Netflix a competitor of traditional television channels? Not so much, because it offered movies and tv series on demand rather than synchronously broadcasted. Was Netflix a rival of cinemas? Well, in a way, but it's hard to compare these approaches directly because cinemas have limited capacity of movie screens, and cannot offer you movies at the touch of a button of remote control at your home. Or maybe one could compare Netflix to video rental shop? Whatever you think, Netflix was a blue ocean exactly because it was difficult to identify all the differences from offerings

of other companies and known business concepts. Customers understood that it was unique and Netflix created a totally new market space. For a while, this space was only occupied by one company - Netflix - so it was a typical blue ocean, but with the passage of time, more companies started offering similar streaming services and nowadays, video-on-demand market gradually turns into a red ocean, with various offering not only from Netflix but also HBO, Canal+, Amazon and other companies.

Let's also think about **Starbucks** - expensive and fashionable coffee chain, serving sophisticated beverages. When Starbucks was opening its first coffee houses in many countries, it was difficult to explain who they compete against. It was not a restaurant nor a bar, it also differed from fast food chains. The concept was initially a clear blue ocean - until of course it was imitated by so many coffee chains operating in various countries.

And finally, a good BOS example is **Tesla**: electric car, disrupting the automotive industry. Please note the term "disruption" - it's usually associated with blue oceans and disruptive innovations are significantly different from everything known before. Tesla was selling ridiculously expensive cars, but for many years customers were also associating Tesla cars with care for the environment, reliability, safety and prestige. It's another question whether all such associations and perceptions by customers are based on fasts and data - you might create a successful blue ocean even for a product or service that technically is not that different or superior to competitive offerings, but your customers would believe that it's unique!

Kim and Mauborgne analyzed the experiences of companies that created blue oceans and identified certain regularities. These companies were implementing something called “value innovation” - combining elements that will be excellent/superior/better than anything available in the market (“differentiation”) with other elements that will be “low cost”. You need to find your competitive edge and offer customers something special, and these parts will be costly. Some elements of your offering should be unique, highly differentiated, adding significant value. You need to compensate this in the overall cost by including also other elements that are stripped down, reduced, or simplified to make sure that the overall costs are acceptable. It's an interesting regularity: successful BOS companies do not try to offer customers the best possible combinations of features and benefits. They try to be reasonable and cost-conscious - some elements will be superior and expensive, but others reduce the financial burdens.

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This can be implemented by means of the so-called "**four actions**"

- Reduce - make some features worse than competitors to control costs
- Eliminate - get rid of features that are costly and not essential for customers
- Raise - improve features and benefits that add major value for customers and are appreciated by them
- Create - add features and benefits that are genuinely unique

Sounds tricky? Kim and Mauborgne proposed a very useful, systematic approach to these four actions. The "**strategy canvas**" is a graph presenting key variables that are currently used by customers to evaluate products or services available in the market (the current red ocean). You can present existing offerings of competitive companies on the canvas and decide how to differentiate yourself: what to reduce, what to eliminate, what to raise and - importantly - which new variables to add (create).

As part of InfraBooster Practitioner training, we will show you examples of the strategy canvas and four actions for sample services based on research infrastructures. The beauty of the SOB approach lies in its simplicity - you will notice that once you draw the strategy canvas for your area (type of research services you intend to offer), you will certainly identify many ways to differentiate your offering, to make it significantly different from other organizations that currently offer research services. And the idea of SOB is to find such differentiators that your potential customers will not want to compare your services with the other options, because they would believe that these services are unique and irreplicable.

10.17 Annex 16 Blue Ocean Strategy template

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Team assignment 3.2- Blue Ocean Strategy

Create Blue Ocean for your organisation – propose a unique service based on your research infrastructure.

- **Start by compiling** a table of strategic canvas for 2-4 selected groups of rivals (each in a separate table), followed by a table specifically for your service.
- **Add variable** names, and **mark "X"** for specific level of variables (HIGH/MEDIUM/LOW).
- **Remember that some of** the variables will not be relevant for rivals and only be created for your service.
- Your RI-based service should be differentiated from other rivals – some variables should be lower (=reduce), higher (=raise), some should not be used by your organisation (=eliminate) and others added (=create).

Discuss your decisions with mentors during online meeting next week.

	Variable 1:	Variable 2:	Variable 3:	Variable 4:	Variable 5:	Variable 6:	Variable 7:	Variable 8:	Variable 9:
Type of rivals 1:									
HIGH	☐	☐	☐	☐	☐	☐	☐	☐	☐
MEDIUM	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOW	☐	☐	☐	☐	☐	☐	☐	☐	☐
Type of rivals 2:									
HIGH	☐	☐	☐	☐	☐	☐	☐	☐	☐
MEDIUM	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOW	☐	☐	☐	☐	☐	☐	☐	☐	☐
Type of rivals 3:									
HIGH	☐	☐	☐	☐	☐	☐	☐	☐	☐
MEDIUM	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOW	☐	☐	☐	☐	☐	☐	☐	☐	☐

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Type of rivals 4:									
HIGH	☐	☐	☐	☐	☐	☐	☐	☐	☐
MEDIUM	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOW	☐	☐	☐	☐	☐	☐	☐	☐	☐
Your RI-based service									
HIGH	☐	☐	☐	☐	☐	☐	☐	☐	☐
MEDIUM	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOW	☐	☐	☐	☐	☐	☐	☐	☐	☐

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10.18 Annex 17 Elevator pitch

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Elevator pitch

*Reminder: can you still remember the differences between features and benefits, discussed in our 1st session? They will be useful again now, since we are going to prepare an **elevator pitch** (or: **elevator test**)!*

Let's start with some historical information about the origins of this approach. During the economic boom of the 1980s, potential investors in the US financial industry were flooded with business plans and proposals for financing new ventures. They were receiving too more documents than they could review, so they had no time or motivation to analyze every incoming proposal. And suddenly, somebody discovered that in order to reach the potential investor, a short conversation "on the run" could help – few sentences exchanged on the way between the gates of the office building and the cab, or in the elevator while going up to the office. For many startup companies, this was the only opportunity to make contacts with the investors. If the conversation was unsuccessful, and they wouldn't be able to convince the investor of their idea, any further attempts at contact would only be a waste of time. The entrepreneurs had to prepare a sufficiently convincing speech to "sell" the idea or product in a matter of seconds and to make good impression on the investor. The structure of the elevator pitch was developed exactly to convey these essential pieces of information, using a standard two-sentence structure.

The elevator pitch can also be used with customers, not only potential investors. Customers, too, expect a short, concise and convincing presentation of a product's or service's benefits and differentiators. The elevator pitch can be included on your website, in an industry catalog, at the beginning of a business presentation or offer. It will be an effective way to give a brief but encouraging answer to questions from potential customers at meeting or trade shows: "But what do you actually offer?". Finally, it will allow you to control your nerves in a conversation with difficult journalists, who do not understand your area but are preparing publications about it. People don't have time for you – they are not willing to spend much time to get acquainted with your offer. If your discussion partner is not immediately convinced that you offer tangible benefits and are better than others.... she or he we will probably say goodbye forever.

How to prepare to pass the elevator pitch or elevator test? It's nothing complicated - just answer the following five questions:

1. For whom is your product/service intended? [**target customers**]
2. What problem does it solve? [**problem**]
3. What product/service category does it belong to? [**category**]
4. What unique features and benefits does it offer? [**differentiator**]

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5. What alternatives does it have? [**competitors/substitutes**]

Knowing who the target customers are, understanding their problem, category, differentiators and realizing what the offering competes with, we can move on to the key element: formulating a short message, presenting your offering in the best possible light. Most importantly, the entire message fits into **two short sentences** that contain so much relevant information!

> **For** [target customers] **who suffer from/need** [problem], **we offer** [category] that **provides** [a key problem-solving capability]. **Unlike** [competitors/substitutes], **we offer** [differentiator].

To dispel any doubts, here are some (fictional) examples of elevator pitches:

> **For hard-working Warsaw residents** [target customers] **who do not have time to visit laundromats** [problem], **we offer laundry services** [category] **with home pick-up and delivery** [key problem-solving capacity]. **Unlike other laundromats operating in the city** [competitors/substitutes], **we pick up and deliver clothes to your home** [differentiator].

> **For families with young children living in Madrid** [target customers], **who have no one to leave their child with and would like to spend time in a restaurant** [problem], **we offer the services of a food service establishment** [category] **with space and services specially for children** [key problem-solving capacity]. **Unlike other restaurants operating in the city** [competitors/substitutes], **we offer a place where our guests' children can have fun under the care of a qualified babysitter** [differentiator].

When formulating an elevator pitch, it is worth paying attention to whether **the differentiator you use is sufficiently understandable, useful for potential customers and convincing**. The average user of a technical product or service may not be convinced if you argue that your differentiator is a specific material, component, or technical parameter (hint: remember about the differences between features and benefits?). These technical **features** might be of interest to specialists and enthusiasts – but we should rather focus on **benefits** that will be understandable and convincing to any recipient of the message. Think about reaching lay people, inexperienced customers, potential partners who are not familiar with the technology, or journalists from popular non-specialist media.

Another important issue is **how to identify competitors/substitutes**. This is about organizations, products or services that **cater to similar needs**. In the case of high-tech products or services, it is best to simply refer to your direct competitors and show how specifically your offering differs. In many cases, you don't even need to mention names of all the competitors, the phrase "in contrast to providers of comparable services" might be sufficient, but for highly specialist products or services, you might still need to indicate names of your alternatives. Please remember that your customer may want to double-check your statement and ask for evidence, including more detailed comparisons. It is worth carefully choosing the right differentiators. You don't want to be caught misinforming potential customers about competitors that do not exist, are not really more expensive, or offer functions that you've suggested

were not available.... If your customer finds one element that contradicts your statement, your entire elevator pitch loses credibility.

All the elements described so far - replacing descriptions of features with benefits, using a short and specific message to present the product, explaining to the customer how our product is better than that offered by the competition - are jointly called "positioning" in management and marketing terminology. Positioning means placing the product in the consumer's mind in such a way that it is exactly in the position we would like it to be, associated with certain ideas, values and emotions. When talking about innovative products and services, positioning seems particularly important. Customers should associate a particular solution and its provider with certain benefits, our salespeople should remind customers of to the same differentiators at every opportunity, and our promotional materials should consistently confirm this message. With effective positioning, even when a competitor develops an improved offering, our solution stays in customers' minds and we still remain their first choice. Positioning is key for innovative solutions that are also difficult to understand for ordinary customers. This is due to the fact that people show particular skepticism when they do not fully understand the innovations or do not see their benefits. Positioning facilitates their decision-making processes, hinting at the benefits, guiding their thinking about the innovations - and thus creating the desired image of our offering!

And finally - the elevator pitch is an excellent way of summarizing your future strategic directions. It could be used in your marketing collateral or direct discussions with potential customers. A well-written elevator pitch will be easy to remember for your team members and explains what exactly you offer and why, so everybody will accept and identify themselves with these important strategic directions!

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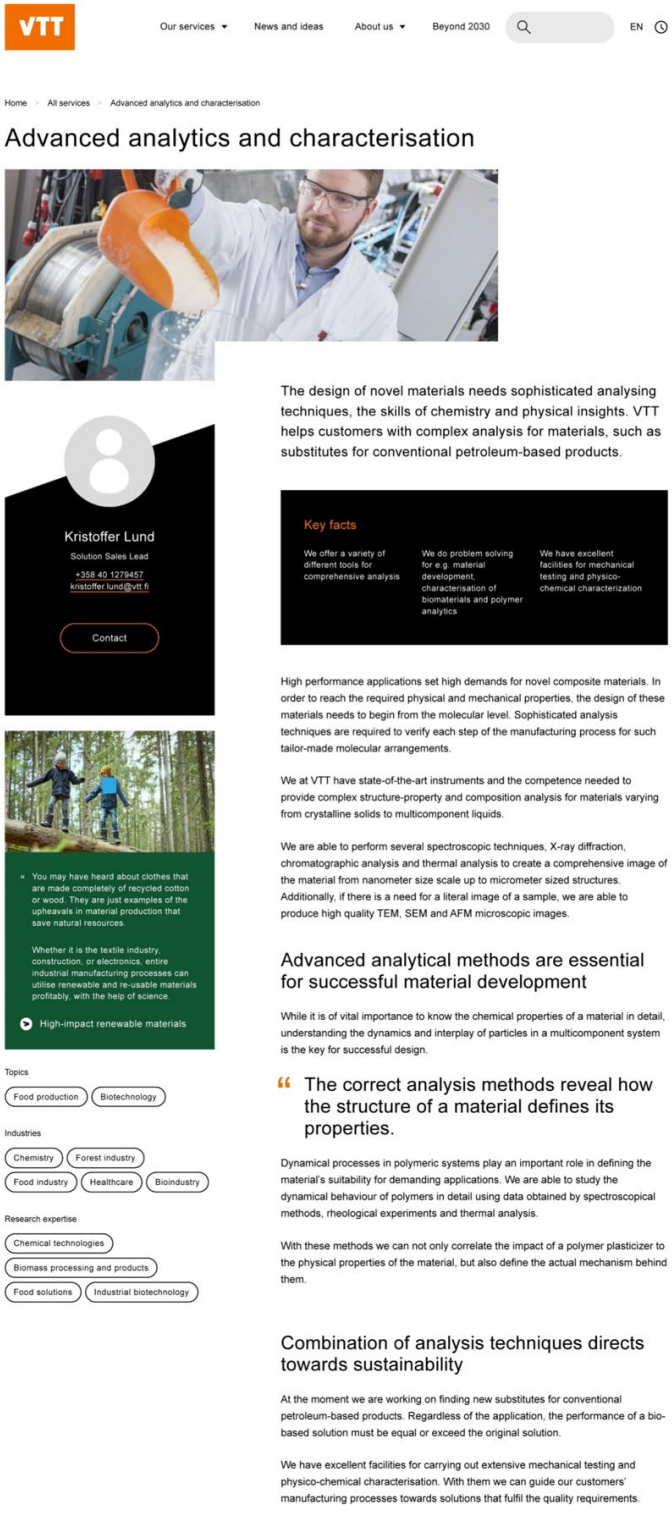
10.19 Annex 18 One-pager examples



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Advanced analytics and characterisation

The design of novel materials needs sophisticated analysing techniques, the skills of chemistry and physical insights. VTT helps customers with complex analysis for materials, such as substitutes for conventional petroleum-based products.

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Key facts

- We offer a variety of different tools for comprehensive analysis
- We do problem solving for e.g. material development, characterisation of biomaterials and polymer analytics
- We have excellent facilities for mechanical testing and physico-chemical characterization

High performance applications set high demands for novel composite materials. In order to reach the required physical and mechanical properties, the design of these materials needs to begin from the molecular level. Sophisticated analysis techniques are required to verify each step of the manufacturing process for such tailor-made molecular arrangements.

We at VTT have state-of-the-art instruments and the competence needed to provide complex structure-property and composition analysis for materials varying from crystalline solids to multicomponent liquids.

We are able to perform several spectroscopic techniques, X-ray diffraction, chromatographic analysis and thermal analysis to create a comprehensive image of the material from nanometer size scale up to micrometer sized structures. Additionally, if there is a need for a literal image of a sample, we are able to produce high quality TEM, SEM and AFM microscopic images.

« You may have heard about clothes that are made completely of recycled cotton or wood. They are just examples of the upheavals in material production that save natural resources.

Whether it is the textile industry, construction, or electronics, entire industrial manufacturing processes can utilise renewable and re-usable materials profitably, with the help of science.

High-impact renewable materials

Topics
Food production · Biotechnology

Industries
Chemistry · Forest industry · Food industry · Healthcare · Bioindustry

Research expertise
Chemical technologies · Biomass processing and products · Food solutions · Industrial biotechnology

Advanced analytical methods are essential for successful material development

While it is of vital importance to know the chemical properties of a material in detail, understanding the dynamics and interplay of particles in a multicomponent system is the key for successful design.

> The correct analysis methods reveal how the structure of a material defines its properties.

Dynamical processes in polymeric systems play an important role in defining the material's suitability for demanding applications. We are able to study the dynamical behaviour of polymers in detail using data obtained by spectroscopical methods, rheological experiments and thermal analysis.

With these methods we can not only correlate the impact of a polymer plasticizer to the physical properties of the material, but also define the actual mechanism behind them.

Combination of analysis techniques directs towards sustainability

At the moment we are working on finding new substitutes for conventional petroleum-based products. Regardless of the application, the performance of a bio-based solution must be equal or exceed the original solution.

We have excellent facilities for carrying out extensive mechanical testing and physico-chemical characterisation. With them we can guide our customers' manufacturing processes towards solutions that fulfil the quality requirements.

GERMAN INSTITUTE OF FOOD TECHNOLOGIES

Science Quality Safety

DIL

EXTRUSION
UNLIMITED DIVERSITY

EXTRUSION AT DIL

Extrusion is one of the main product development sectors at DIL. Each extrusion process and product is unique.

TOGETHER WE WILL FIND THE BEST SOLUTION FOR:

- recipe and process development
- product design
- thermal/chemical modification
- structure development
- shaping
- trials

BENEFITS FOR YOUR COMPANY?

- Possibility of conducting tests on different extruders (10 - 400 kg)
- Support in recipe and process design
- Trials with specific recipe modifications and feasibility studies for scale-ups
- Support during set-up of extrusion lines on-site
- Possibility of toll production

ABOUT US

As a research institute, the German Institute for Food Technologies (DIL) works in product and process development as well as in analytics. With its technological know-how and its decades of experience, the DIL supports its partners in the process of innovation.

- more than 30 years experience in the food industry
- practical product and process development
- more than 180 food experts
- more than 150 (international) member companies

ANALYTICS

With accompanying analytics, extrudates can be characterized quickly and results can be immediately integrated into the development process. There are many opportunities:

- PHYSICS (CHARACTERIZATION OF STRUCTURES)
- CHEMISTRY
- MICROBIOLOGY
- SENSORY EVALUATION

DIL EXTRUSION CENTER

The in-house extrusion center allows the implementation of extrusion processes to optimize existing products and to realize new product ideas.

OUR EQUIPMENT INCLUDES:

SINGLE SCREW EXTRUDER
- Brabender Plasti-Corder PL-2000-3-6
  Throughput: 1 - 10 kg/h, rotation speed: max. 200 min⁻¹

TWIN SCREW EXTRUDER
- Berstorff ZE 25x33D
  Throughput: 10 - 35 kg/h, rotation speed: max. 400 min⁻¹
  For processing of Pet Food, Feed and Insects

HIGH SPEED TWIN SCREW EXTRUDER
- Coperion ZSK 27 MvPLUS
  Throughput: 10 - 35 kg/h, rotation speed: max. 1800 min⁻¹

HIGH SPEED TWIN SCREW EXTRUDER
- ZSK 43 MEGAVolume
  Throughput: 80 - 400 kg/h, rotation speed: max. 1800 min⁻¹

PLANETARY ROLLER EXTRUDER
- Entex FI-WE70
  Throughput: 10 - 100 kg/h, rotation speed: max. 168 min⁻¹

APPLICATION

The food industry is increasingly turning into a high tech industry. Our comprehensive services will support you in standing out from the competition.

COOKING EXTRUSION
- Snacks, Cerealien, Pet Food, Textured Vegetable Protein (TVP)

HIGH MOISTURE EXTRUSION
- Meat analogues, Hybrid products

COLD EXTRUSION
- Pasta products

LOW TEMPERATURE EXTRUSION
- Ice cream

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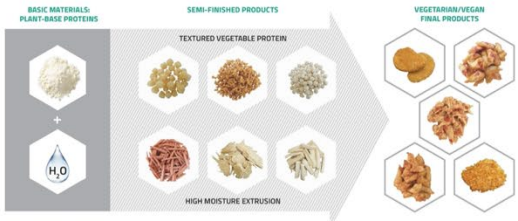
FROM RAW MATERIALS TO TEXTURIZED PROTEINS



Łukasiewicz INS

GREEN EXTRACTS FOR FUNCTIONAL BEVERAGES

For **functional beverages** companies and **juice producers** who want to **design** or **improve their recipes** we offer natural **solvent-free plant extracts** that provide unlimited possibilities of **enhancing** the aroma, taste and bio properties.

Unlike **other companies offering SFE plant extracts**, our service and experts enable **cost-effective, parameters-flexible** natural raw materials processing and upscaling from **lab to toll** production.

raw material → extract → beverages

WHY CO_2 EXTRACTION AT ŁUKASIEWICZ - INS

No need for early investment in your own expensive R&D facilities. Our unique in-house extraction facilities allow implementation of supercritical CO_2 extraction processes to improve and optimize the existing products and design new recipes.

WE OFFER

- tests on different extraction scale and feasibility studies for scale-up
- trials at wide range of process parameters for practically all raw materials
- sterile natural plant extracts rich in bioactive compounds free from chemicals
- complex analytics of extracts (incl. qualitative analysis of selected bioactive compounds)
- possibility of toll production if technologically feasible

Our R&D equipment includes:

Two laboratory scale installations for supercritical CO_2 extraction with the option of feeding water or ethanol (extractor capacity: 1L, pressure up to 100 MPa, temperature up to 200°C);

Installation for supercritical CO_2 extraction on a **semi-technical scale** (two 40 L extractors, pressure up to 100 MPa, temperature up to 100°C);

Separation and **fractionation** devices (countercurrent supercritical fluid extraction, centrifugal partition chromatography, molecular distillation);

Two production lines include:

53MPa line with 3 extractors (operating capacity 2.7 m^3 each, possibility of dual stage extract separation, production capacity 1500 t/y as per feedstock)

30MPa line with 4 extractors (operating capacity 2.6 m^3 each, production capacity 2000 t/y as per feedstock)

OUR ASSETS

EXPERIENCE
over 20 years of experience in CO_2 extraction of natural raw materials

RENOWN
a national leader in CO_2 extraction

COOPERATION
a market-oriented research institute, which operates in products and processes development, as well as in analytics

OUR PARTNERS

celabor · BAFA GmbH · UNIVERSITY OF HOHENHEIM · IFE Institute for Energy Technology

Łukasiewicz Research Network – New Chemical Syntheses Institute
Al. Tysiąclecia Państwa Polskiego 13a, 24-110 Puławy
www.ins.lukasiewicz.gov.pl; +48 81 473 1400

dr KATARZYNA TYŚKIEWICZ
katarzyna.tyskiewicz@ins.lukasiewicz.gov.pl
+48 885 210 575

Let's start the work.
Our team is eager to help you.

FOOD SUPPLEMENTS FOR OBESITY

Preclinical evaluations

About Us

Research Laboratory for Targeted Nutrition and Food Supplements activates within the Faculty of Pharmacy, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania. As an interdisciplinary research laboratory with specialists in developing pharmaceutical formulations and food supplements, we offer services of testing the health benefit of bioactive compounds and food supplements.

Phone	004 021 318 07 19
Email	denisa.udeanu@umfcd.ro
Address	Traian Vuia 6, Bucharest
Website	www.umfcd.ro
Infrastructure	https://eeris.eu/ERIO-2000-000B-0233
	https://eeris.eu/ERIF-2100-000T-8146

Bioactive compounds or food supplement formulations

Animal models of obesity

OVERVIEW

The food supplements market for obesity is very diverse and the offers are not always efficient on long term treatment without secondary effects. The food supplement formulations require a rigorous preclinical control to succeed and maintain on the market.

PROBLEM

The food supplements manufacturers do not always have the expertise and capability to perform *in vivo* studies and achieve proper correlations with the obtained results. The quality of preclinical analyses assure a proper evaluation of the therapeutic potential and secondary effects of food supplements and avoids failures in next steps on authorizing the product for market.

SOLUTION

The Research Laboratory for Targeted Nutrition and Food Supplements offers services for testing the biological activity of bioactive compounds and food supplements formulations in obesity animal models.
The laboratory is equipped with

- Animal facility (for small rodents)
- Equipment for biochemical, hematological and immunology determination
- Physical-chemical analyses of food supplement formulations

- Preclinical safety study
- Analyzing the treatment effects after administration of active compounds or final product formulation on animal model of obesity
  - Long term impact on body weight dynamic
  - Health status monitoring
  - Therapeutic potential estimation
- Bioavailability studies on the final product formulation

UNIVERSIDAD DE BURGOS
Campus de Excelencia INTERNACIONAL

TECNOFOOD

Transform your food waste into high value applications

For food producers aware of both their environmental footprint and their waste management, Universidad de Burgos offers its expertise in integral valorisation of food waste streams, by using green processes, to obtain bio-active compounds and promote sustainability and circular economy.

Features:

- Integrated biorefinery approach: raw material characterization, selective extraction of bio-active compounds and encapsulation.
- Highly specialised infrastructure, including pilot plants for extraction, purification and formulation of extracts.
- Extensive know-how on industrial applications of green extraction technologies.

Benefits:

- High added value on by-products (extracts).
- Improving carbon neutrality of the processes.
- Green and natural products, promoting the circular economy and oriented to consumer preferences.

Applications

- Valorization of agrifood by-products and process optimization under a circular perspective.
- Obtention of bioactive compounds with antioxidant and antimicrobial activity.

Our partners Campofrío Gambastar PEPSICO PESCANOVA

Prof. Jordi Rovira and the Tecnofood team

Let's start the work!

Our team is ready to help you to make your company more sustainable!

Contact us: jrovira@ubu.es, *+34.947.258.814.*

We also will be happy to meet you at the University of Burgos. C/Hospital del Rey s/n, Burgos.

10.20 Annex 19 Outreach Plan Template

InfraBooster Practitioner

Outreach Plan

Template developed by University of Warsaw

This sheet outlines your planned strategic directions to communicate and promote your RI-based service with clients-members of the target audience in a timely, relevant, and meaningful way, as well as specifies the intended communication channels. Please include in the outreach plan all target segments and personas that were planned for your RI-based service.		
Name of scientific institution		
Name of RI		
OUTREACH PLAN		
1. Segment:	**Priority:** [indicate with 1, 2, 3 ... with 1 being the most important segment]	**Prepared by:**
Company 1		
Company name:	Size: [small, medium, large]	Location:
Justification for targeting the company	*Please explain why this company is important for your outreach. You may e.g. refer to its existing portfolio, experiences in R&D, specialisation identified by NACE codes or previous contacts.*	
Target contact position	*Select from the list: CEO: chief executive officer, CSO: chief scientific officer, CINO: chief innovation officer, open innovation manager, BD: business development; head of R&D, etc. Briefly also justify the selection (examples: CEO - the company is a startup established by one of our university/research institute alums; CSO – the company is a large multinational corporation and the CSO, based on our research, seems the most appropriate person who knows the technology and complexity behind our service but also its benefits/advantages for the company and, therefore, is more likely to provide us with feedback).*	
Persona	*Describe briefly here job, pain and gain of the target contact.*	
Communication channel	*Select from the list [multiple choices allowed]: email, phone call, personal visit, online platforms, social media, etc.]*	

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Message	*Write here briefly the messaging you are going to use for communication with target contact in the company.*		
Type of materials	*List here materials you would like to share with the target contact for outreach, i.e. one-pager, brochure, link, invitation, demo video, etc.*		
Frequency of follow-up	*How often you will reach the target contact in order to monitor progress, provide updates, or ensure that everything is on track. Example: every two weeks*		
Timeline	*How long is your initial time expectation to conclude the outreach phase for this target company/contact. Example: 3 months from first contact to feedback (i.e. yes, no, maybe later, etc.)*		
Company 2			
Company name:		Size:	Location:
Justification for targeting the company			
Target contact position			
Persona			
Communication channel			
Message			
Type of materials			
Frequency of follow-up			
Timeline			
Company 3			
Company name:		Size:	Location:
Justification for targeting the company			
Persona			

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Communication channel			
Message			
Type of materials			
Frequency of follow-up			
Timeline			
2. Segment:		**Priority:**	**Prepared by:**
Company 1			
Company name:		Size:	Location:
Justification for targeting the company			
Persona			
Communication channel			
Message			
Type of materials			
Frequency of follow-up			
Timeline			
Company 2			
Company name:		Size:	Location:
Justification for targeting the company			
Persona			
Communication channel			
Message			
Type of materials			
Frequency of follow-up			
Timeline			

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Company 3		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		
3. Segment:	**Priority:**	**Prepared by:**
Company 1		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		
Company 2		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		

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Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		
Company 3		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		
4. Segment*:	**Priority:**	**Prepared by:**
Company 1		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		

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Company 2		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		
Company 3		
Company name:	Size:	Location:
Justification for targeting the company		
Persona		
Communication channel		
Message		
Type of materials		
Frequency of follow-up		
Timeline		

Note*: in case your team consist of four members.

You can add more client segments and more companies per segment if needed by replicating parts of the table. Please make sure that you prepare the analysis for at least as many segments as the number of team members, with at least 3 targeted companies in each segment.

Once you have prepared the assignment, please upload the document to **Kampus** as PDF

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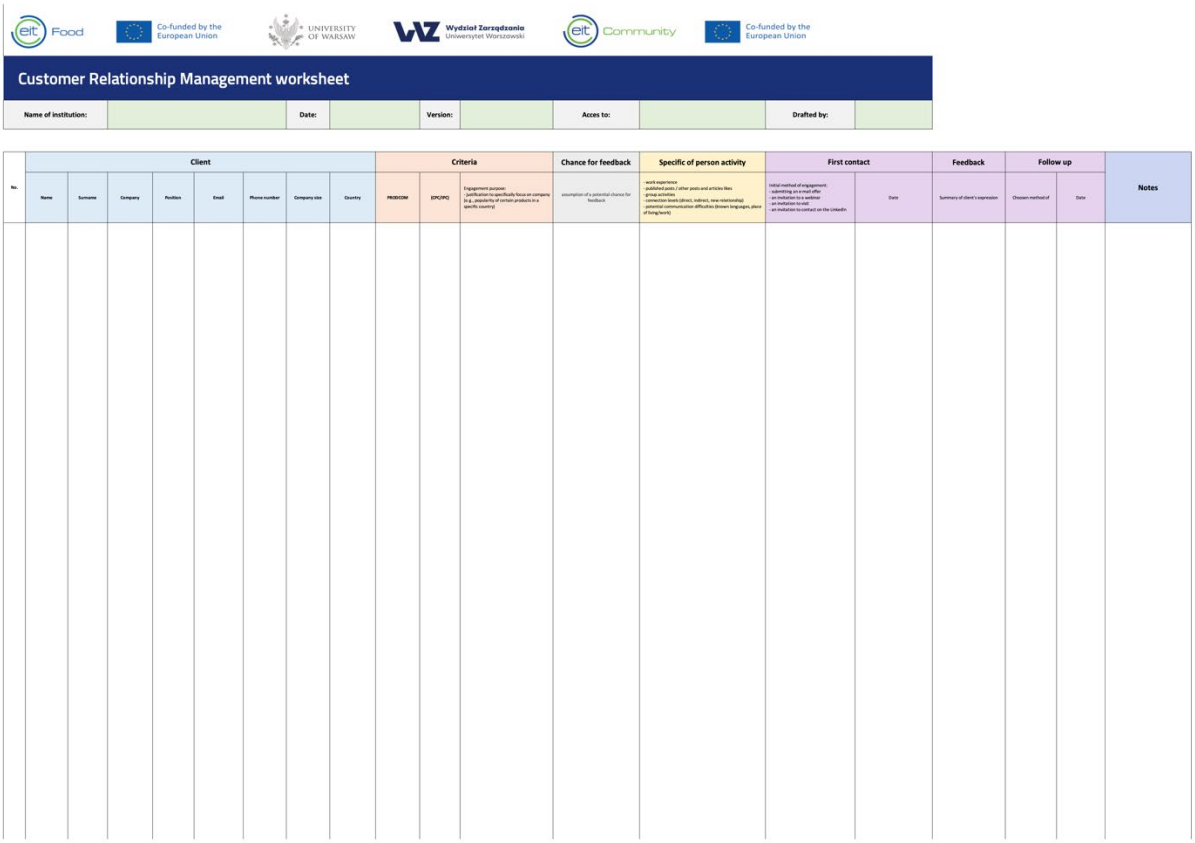
10.21 Annex 20 Customer Relationship Management (CRM) Worksheet



Customer Relationship Management worksheet

Name of institution:		Date:		Version:		Acces to:		Drafted by:	

No.	Client								Criteria			Chance for feedback	Specific of person activity	First contact		Feedback	Follow up		Notes
	Name	Surname	Company	Position	Email	Phone number	Company size	Country	PRODCOM	(CPC/CPC)	Engagement purpose: - justification to specifically focus on company (e.g., popularity of certain products in a specific country)	assumption of a potential chance for feedback	- work experience - published posts / other posts and articles likes - group activities - connection levels (direct, indirect, new relationship) - potential communication difficulties (known languages, place of living/work)	Initial method of engagement: - submitting on e-mail offer - an invitation to a webinar - an invitation to visit - an invitation to contact on the LinkedIn	Date	Summary of client's expression	Chosen method of	Date	

10.22 Annex 21 Messaging assignment template

InfraBooster Practitioner

Messaging

Template developed by University of Warsaw

This sheet details your messaging to one target contact person in a given company, who represents a specific segment/persona for your RI-based service, corresponding to the one-pager and part of the outreach plan developed by you as individual contributor of the team assignments from session 4.

Notes:

- You may consider reusing some elements of the one-pager and part of the outreach plan developed by you individually and team assignments from session 4.
- You might find it beneficial to reuse some sample contents of templates shared during session 5.
- You might find it beneficial to leverage AI-based software or utilize ChatGPT prompts provided during session 5 while preparing this assignment to further polish your English-language text.

Name of institution		
Name of RI		
Prepared by		
MESSAGING		
Segment		
Company size	*[small, medium, large]*	
Company location		
Position of target contact person	*Select from the list: CEO, CSO, CINO, open innovation manager, BD; head of R&D, etc.*	
Persona	*Describe briefly here job, pain and gain of the target person.*	
Message	*Subject line*	
	Opening line	
	Main body	
	Closing line	
Attachments	*List here materials you're going to share with target person for this communication, i.e. one-pager, brochure, link, invitation, demo video, etc.*	

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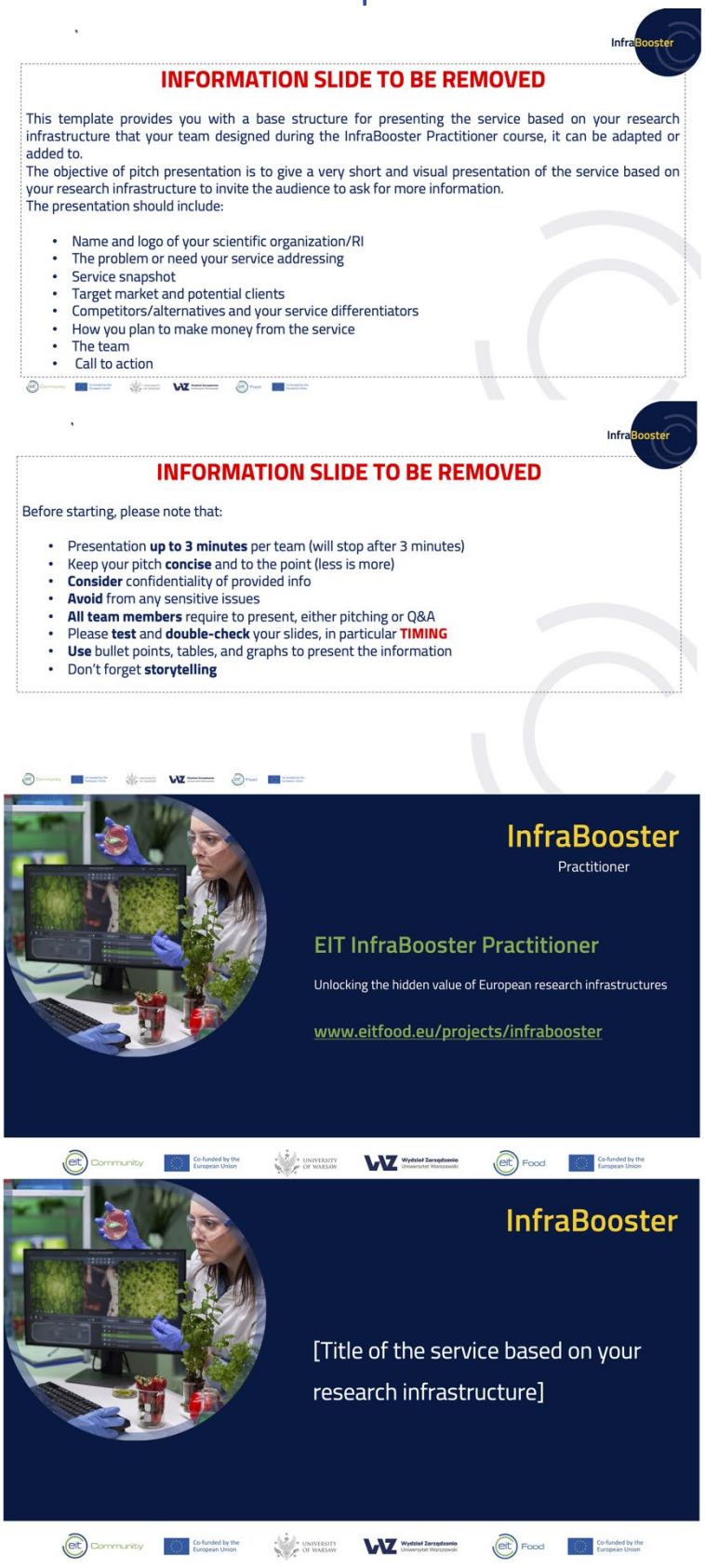
Follow-up timeline	*How often and for how many times will you reach the target person in order to monitor progress, provide updates, or ensure that everything is on track. Example: three follow-ups every two weeks*

Once you have prepared the assignment, please **upload the document** to Kampus **as PDF**.

10.23 Annex 22 Pitch deck template



INFORMATION SLIDE TO BE REMOVED

This template provides you with a base structure for presenting the service based on your research infrastructure that your team designed during the InfraBooster Practitioner course, it can be adapted or added to.
The objective of pitch presentation is to give a very short and visual presentation of the service based on your research infrastructure to invite the audience to ask for more information.
The presentation should include:

- Name and logo of your scientific organization/RI
- The problem or need your service addressing
- Service snapshot
- Target market and potential clients
- Competitors/alternatives and your service differentiators
- How you plan to make money from the service
- The team
- Call to action

INFORMATION SLIDE TO BE REMOVED

Before starting, please note that:

- Presentation **up to 3 minutes** per team (will stop after 3 minutes)
- Keep your pitch **concise** and to the point (less is more)
- **Consider** confidentiality of provided info
- **Avoid** from any sensitive issues
- **All team members** require to present, either pitching or Q&A
- Please **test** and **double-check** your slides, in particular **TIMING**
- **Use** bullet points, tables, and graphs to present the information
- Don't forget **storytelling**

Introduction (1/8)

- **name and logo** of your scientific organization/RI
  - name and logo in **large font** and **size**
  - a **brief intro** about your RI and **warm up**
  - helps the audience to know **who you are**

The problem or need (2/8)

- (almost) the **most important** slide
- **clearly** outline the problem or need you are addressing
  - for whom it is important
  - and why it's a problem or need worth addressing
- **genuine problem or pain = collaboration opportunity**

The service (3/8)

- **service** based on your research infrastructure
  - **how** you're addressing the need or solving the problem
  - **focus on** value proposition and **BENEFITS**
  - **make it** visual and impressive (picture of service)

Target market and potential clients (4/8)

- **demonstrate** your good understanding about the main target segment and type of clients (personas)
  - *(NACE2 subclasses, PRODCOM, economic data, persona analysis, etc.)*
- **focus on** return on investment (ROI) or compliance with new regulations
  - *additional revenue? cost reduction? (%$) substituting Ingredients?, etc.*
- **use** graph and charts

Competitors/alternatives and differentiators (5/8)

- **cover** your competitors/alternatives
  - *(strategy canvas and four actions framework)*
- **point out** the gaps that they're not filling
- **highlight how** you are filling the gaps (differentiators) and **why** your service is unique/better than the existing/alternative ones

Plan to generate revenue from the service (6/8)

- talk about **how you plan making money** from service based on your RI):
  - Contract R&D???
  - Analytical services???
  - Access to infrastructure???
  - Collaborative R&D???

The team (7/8)

- **demonstrate** the dedicated, skilled, experienced, and intelligent team behind this offering
  (photo + role + contact details, etc.)
- **highlight** who is **leading** the team and who is the **contact person** for the service

Call to action (8/8)

- **end** the presentation with this slide
- **clearly outlines** your request
- the **next step** or the action that you **expect from** potential clients to take

10.24 Annex 23 InfraBooster Service Proposal template

InfraBooster Practitioner

[Title of the service based on your research infrastructure]

Final team assignment for "InfraBooster Practitioner" training programme	
Organization name (s):	
Authors:	Contributions:
1.	
2.	
3.	
4.	
Emails:	
Date of submission:	/ /2023
Dissemination level	RD = Restricted dissemination for UoW and EIT internal use only

Declaration of originality and contribution

We, hereby declare:

- that we are the authors of the written work presented here,
- that the work has not been submitted for any other degree or non-degree professional qualification,
- that each member of the team contributed to this jointly-authored work with clear division of tasks among all members of the team,
- that appropriate credit has been given within this assignment where reference has been made to the work of others,
- that we are aware our work may be screened electronically for plagiarism.

Each author's inputs to this work have been explicitly indicated above to confirm the individual inputs and learning results.

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InfraBooster Practitioner

1. About research infrastructure

Please write an engaging text about your research infrastructure (RI) by focusing on following aspects: name and working website (if any), background (how it funded and established, years of operation, number of research staffs and their expertise, key equipment, etc.), the importance of this RI for regional innovation ecosystem linked to research and innovation strategy for smart specialisation (RIS3), its goal and plan toward commercialization, existing science-industry collaborations, important industry clients (if any), number of commercial collaboration/projects (if any), relevant statistics to commercialization activities (optional), etc.

Please **insert your institute's logo in the bottom right corner**, preferably at the same size as the University of Warsaw, EIT Food and EU logos.

2. Persons and units involved in RI-based service

Please provide names and specific roles of people involved in the service based on your RI, provide the name of technical and administrative collaborators (other departments and units – if any), and map all key equipment in providing this RI-based service.

3. Potential clients

Using the learning of session 2 as well as the content of relevant assignments, please explain who are the potential clients of the service based on your RI – in particular, explain the main target segment and type of clients (personas), techniques you used to identify them, your geographical focus, the segment size, and how you justified your selection. The description should demonstrate your good insights into specific needs, problems/pains of potential clients.

4. Claims and differentiators

Start this section with a short summary of the needs of your target market (based on persona analysis and possibly also referring to insights into target industry problems/needs, discussions within experts, your prior experiences, scientific articles or market reports).

Please list the specific benefits for potential clients that might be used in your promotion and marketing efforts. Please remember that health claims or statements about your service economic and environmental impacts will probably require hard data or independent confirmations, certification or regulatory approvals, depending on specific legal regulations of your country.

Please indicate at least several alternatives to the service based on your RI that are available in your country or other countries targeted by your service, clearly outlining what makes your service different and standing out in the competition. The alternatives might include direct and indirect competitors, as well as substitutes.

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InfraBooster Practitioner

Please use the strategy canvas (Blue Ocean Strategy, session 3) or a table to systematically compare the relevant available options. Whenever possible, please provide details on the alternatives, providing information about the service name, organisations delivering the service, its features and declared benefits, pricing, and other relevant aspects. It's important to highlight the most relevant differentiators of your service when comparing it to each of these alternatives.

Conclude this section by providing the snapshot of the service based on RI. You are encouraged to use the adapted form of an "elevator pitch":

- For (target users for whom you would like to deliver your service):
- Who suffer from/need to (describe the acute problem that the potential industrial clients are experiencing or a compelling reason to buy).
- We offer (service category)
- That provides (a key problem-solving capability).
- Unlike (the existing alternative),
- Our service (describe the key benefits which differentiate your innovative service from existing alternatives).

For [target clients] **who suffer from/need to** [problem], **we offer** [service category] **that provides** [a key problem-solving capability]. **Unlike** [the existing alternative], **we offer** [differentiator].

5. Communication and engagement strategy

Using the content and techniques presented during the sessions on planning communication and managing client relations, as well as relevant assignments, please describe your communication and engagement strategy – in particular, briefly explain what techniques you're going to use the most (cold mailing, cold calling, online platforms (e.g. LinkedIn), industry forums, newsletters, tours, sales visits, webinars, etc.), how you plan to approach your potential target clients (outreach plan), how you plan to profile them (CRM worksheet), whom are you looking for (e.g. CEO, CSO, CINO, open innovation manager, BD; head of R&D, etc.), etc. (preferably in the form of a table).

Additionally, you need to briefly explain how you plan to make money from the service based on your RI/what you plan to sell.

- *Please use the template to prepare your final team assignment.*
- *Please delete the in-text guidelines highlighted in yellow before submitting your final team assignment.*
- *Please rename you assignment before submission, representing the assignment + your institute name (**InfraBoosterServiceProposal_University of Warsaw**)*

Once you have prepared the assignment, please upload the document to **Kampus** as PDF

www.eitfood.eu/projects/infrabooster