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DECIDE

**Data-driven control and prioritisation of
non-EU-regulated contagious animal diseases**

Deliverable 6.8

Roadmap for exploitation

WP6 – Communication activities and dissemination and exploitation of results

Authors	Inge Santman-Berends (GD), Anouk Veldhuis (GD), Wouter Swolfs (GD), Mirjam Nielen (UU)
Lead participant	GD
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Abbreviations

Abbreviation	Description
EU	European Union
WP	Work Package
RfE	Roadmap for Exploitation
Tx	Tool number x (varies from 1 to 12)
VPC	Value Proposition Canvas
BM	Business Model
WS	Workshop

Partner short names

Short name	Organisation
UU	Universiteit Utrecht
UCPH	Københavns Universitet
UGent	Universiteit Gent
UoL	The University of Liverpool
ETHZ	Eidgenössische Technische Hochschule Zürich
UoN	The University of Nottingham
SVA	Statens Veterinärmedicinska Anstalt
INRAE	Institut National de Recherche pour l’Agriculture, l’Alimentation et l’Environnement
NVI	Veterinærinstituttet – Norwegian Veterinary Institute
IRTA	Institut de Recerca i Tecnologia Agroalimentàries
SRUC	Scotland's Rural College
AHI	Animal Health Ireland Initiative
IDELE	Institut de l’Elevage
IfA	Innovation for Agriculture
GD	Gezondheidsdienst voor Dieren B.V.
EpiMundi	EpiMundi
SLW	SLW Biolab s.c.
LELY	Lely Industries N.V.
accelCH	accelopment Schweiz AG
HFP	HF Partners

Tool numbers and names

Tool number	Tool name	Species
T1	Poultry Barometer	Poultry
T2	Griskompassen	Pigs
T3	Cattle Barometer	Cattle
T4	EvalBRD	Cattle
T5	Salmon Mortality Monitor	Salmon
T6	Pig Health Dashboards	Pigs
T7	Laksetap	Salmon
T8	Abattoir Inspect	Pigs
T9	Cattle Health Support tool	Cattle
T10	Pig Health Check	Pigs
T11	Purchase assistant	Cattle
T12	Pig Barometer	Pigs

1 Background and aim of deliverable D6.8

DECIDE partners have a keen interest in exploiting the project results to strengthen their innovation capacity and to further develop their methods and technologies. To facilitate the exploitation of the DECIDE results, the consortium has defined clear Innovation and IPR Management tasks and responsibilities. From the beginning of DECIDE, exploitation activities have been an integral part of the project (Figure 1).

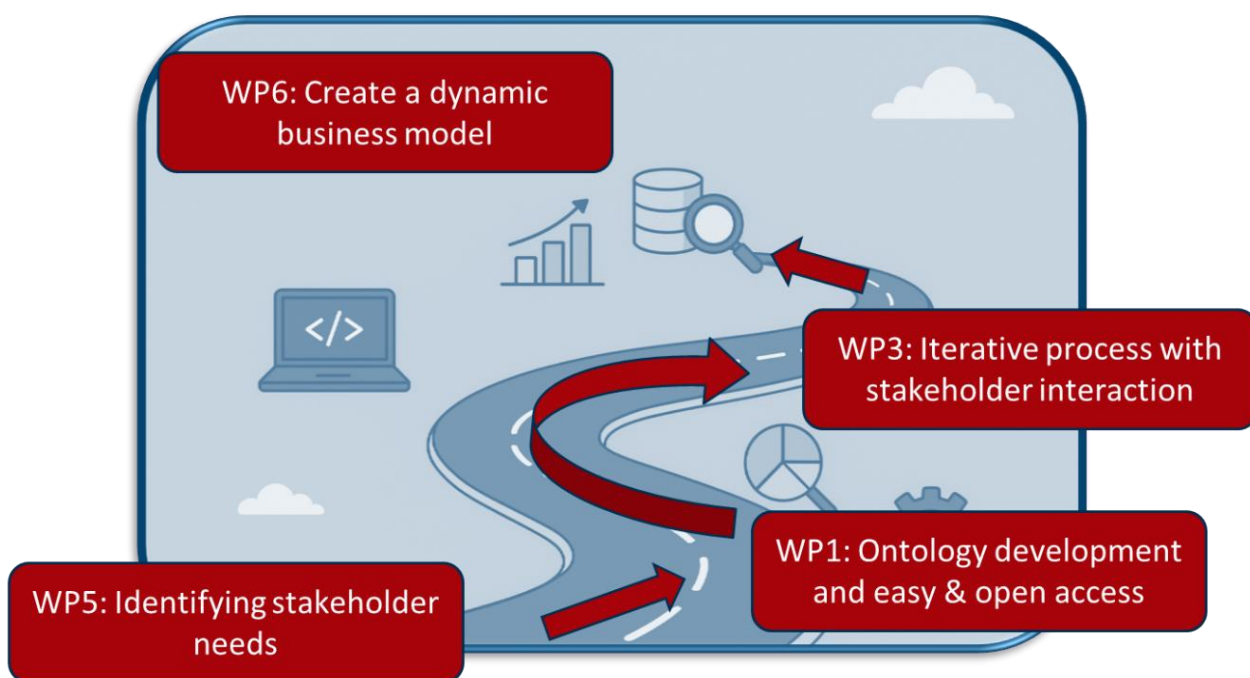


Figure 1. Exploitation activities conducted throughout the DECIDE project

The activities within deliverable 6.8 build on the activities conducted so far and aim to define a strategy and plan (Roadmap for Exploitation; RfE) for the non-commercial and commercial use of the tools developed within DECIDE. The approach described in this report aimed to ensure that the tools developed under the DECIDE project are, either on the short or mid-term, both sustainable and viable thereby maximizing their impact and practical utility in the real world.

The RfE is part of the activities conducted in Task 6.3: ‘Exploitation of project results and outcomes’ within WP6 (Outreach: communication, dissemination and exploitation) which is led by accelCH together with UU. Deliverable 6.8 is led by Royal GD and supported by UU. The target group for the RfE are the DECIDE partners and potential other collaborators e.g. potential vendors (‘key partners’ as described in paragraph 3.2.8).

2 Strategy to collect relevant information for the Road for Exploitation

The aim of the RfE is twofold. The **first objective** is to ensure that each decision support tool developed within DECIDE has the most optimal conditions identified for exploitation on the short, mid and longer term (i.e. up to 4 years and up to 10 years after the project ends). To meet this objective, throughout the DECIDE project the first steps towards exploitation were already conducted by:

- i) Involving stakeholders in the beginning of the project which ensured development of data tools that aligned with stakeholder needs,
- ii) Automating data access through e.g. ontologies and making the developed tools publicly available through the DECIDE GitHub page, and
- iii) Creating an iterative process of validating the tools and their usefulness with potential end-users whose feedback was included in a new and improved versions of the tools (D3.3).

During the final year of the project, as part of the exploitation activities for each tool, business models were developed and optimized. A business model provides a clear framework for how a decision support tool will create value, for whom, which are the costs and revenues, and which partnerships are necessary for delivering value to the end-user. Draft business model canvases were created using Strategyzer (<https://www.strategyzer.com/>, Figure 2). By completing a business model, opportunities and threats regarding exploitation are identified, which are crucial when setting up a strategic direction for the mid and longer-term implementation and exploitation of developed tools.

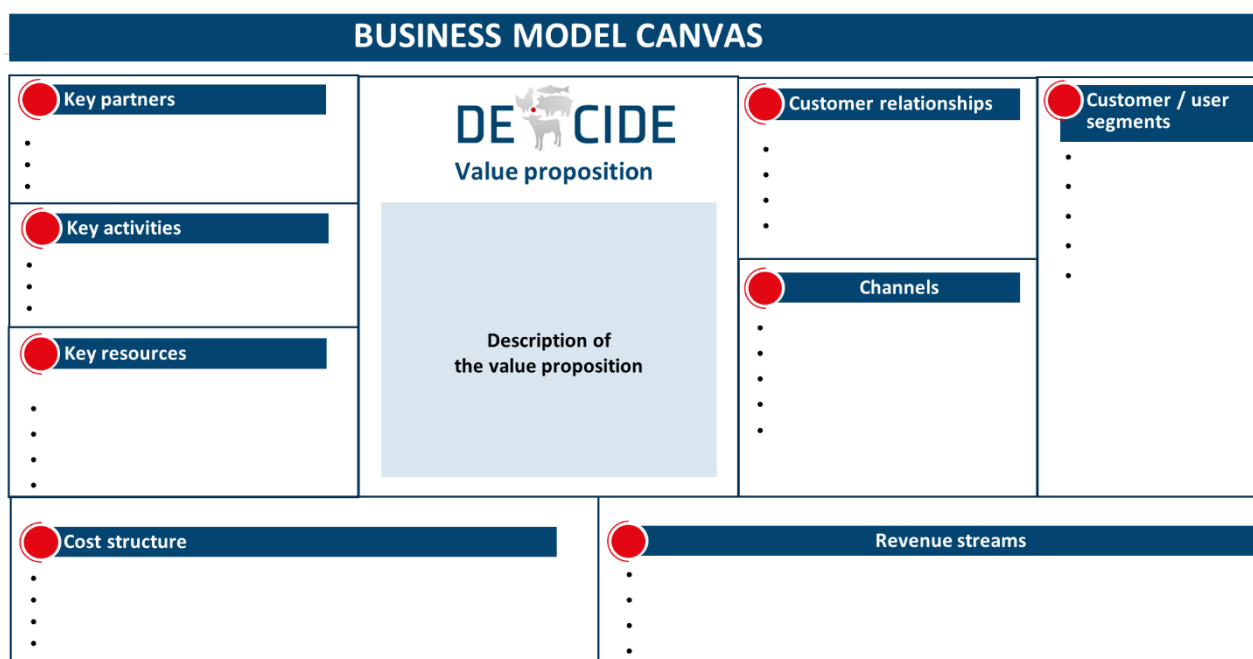


Figure 2. Business Model Canvas (example).

A **second objective** of the RfE is to identify overarching aspects that drive or hamper exploitation of data-driven decision-support tools, that can serve as general recommendations for future reference and projects. To maximise the quality of the deliverable, GD strategically included their company's business and innovation manager in the process. By involving this specific expertise, the RfE ensures a comprehensive focus that extends beyond merely the technical and content-related aspects of the tools. This inclusion encouraged tool

developers, who often come from a research-oriented background, to consider sustainability and long-term viability of the developed tools beyond the DECIDE project.

To collect relevant information to meet the deliverable's objectives, three workshops and a roadmap ideation meeting were organised (Figure 3) during the final year of the project. All project participants who were involved in development of decision-tools were invited to these workshops. The first workshop was organised in June 2025 (M48) during the GA in Uppsala, Sweden. A second follow-up workshop took place in October 2025 (M52) in Amsterdam (Schiphol Airport), the Netherlands. Additionally, in between the workshops an ideation meeting was organised in July 2025 at Royal GD in which a DECIDE partner (prof. dr. George Gunn, SRUC) shared his extensive experience in exploitation of data tools and provided advice to the WP6 RfE team. Finally, in November 2025, the results that were obtained during the process creating the RfE, were presented to the external advisory board (EAB). During that meeting, we identified further points of advice together with strengths, weaknesses, opportunities and threats as perceived by potential future vendors of the DECIDE tools (Figure 3).

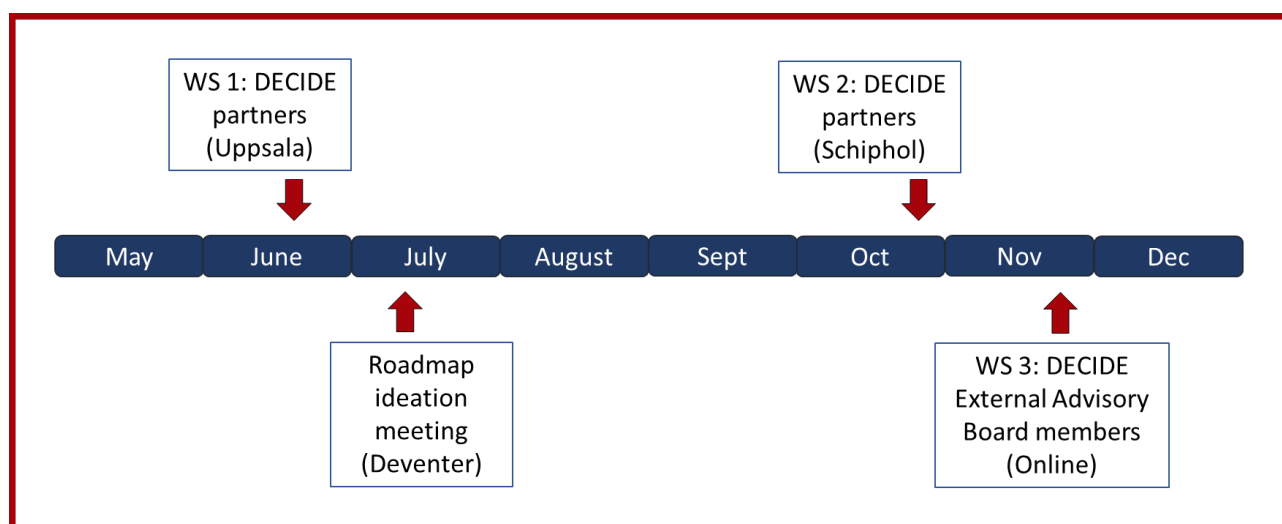


Figure 3. Timeline of meetings organised with various parties to develop the roadmap for exploitation.

2.1 Workshop 1: Towards a business model that maximizes the non-commercial and commercial use of decision-support tools

Prior to the workshop, during RP3, all tool developers were instructed to create a Value Proposition Canvas (VPC) for the tool(s) they were involved in, using a format provided by GD. A VPC represents the core of a business model, and is used to design, test, and refine a company's value propositions to better meet the needs of its customers (Figure 4). The VPCs were brought to the workshop and were used as starting point to create a business model for each tool.

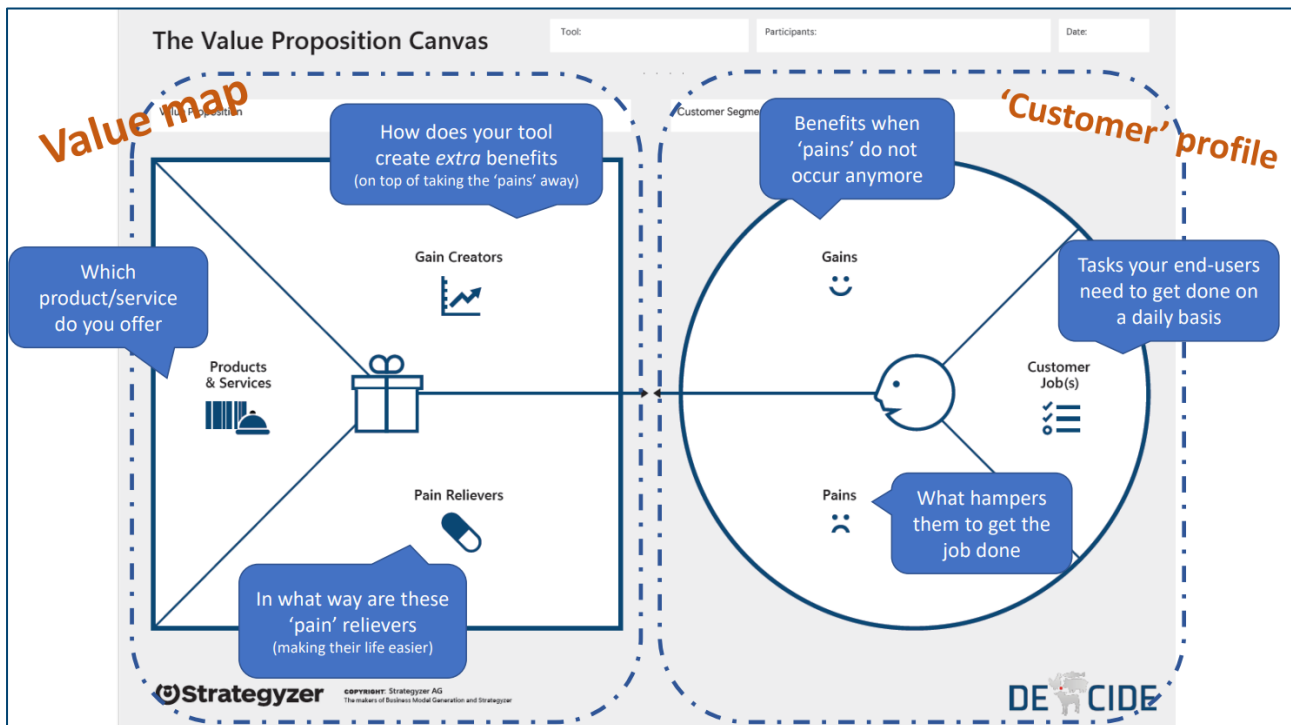


Figure 4. Value Proposition Canvas explained within the context of DECIDE decision-support tool development and exploitation.

Additionally, as part of the tool evaluations under WP3 (D3.3), in an iterative process, tool developers collected valuable feedback from the end users to understand the tools' value and to identify areas for further development, ensuring maximum uptake beyond the DECIDE project. The results of these evaluations and the value propositions were discussed in detail during the workshop. After a short introduction about the aim and the programme of the workshop, the participants were split in 4 groups of 6-10 persons. An empty business model canvas was present at A0 size for each tool and all canvases were divided over three separate meeting rooms. Via a round-robin brainstorming technique, all groups rotated over the three rooms, discussing the different aspects of the business model for each of the tools present in the room one by one and adding elements to the canvases (Figure 5).

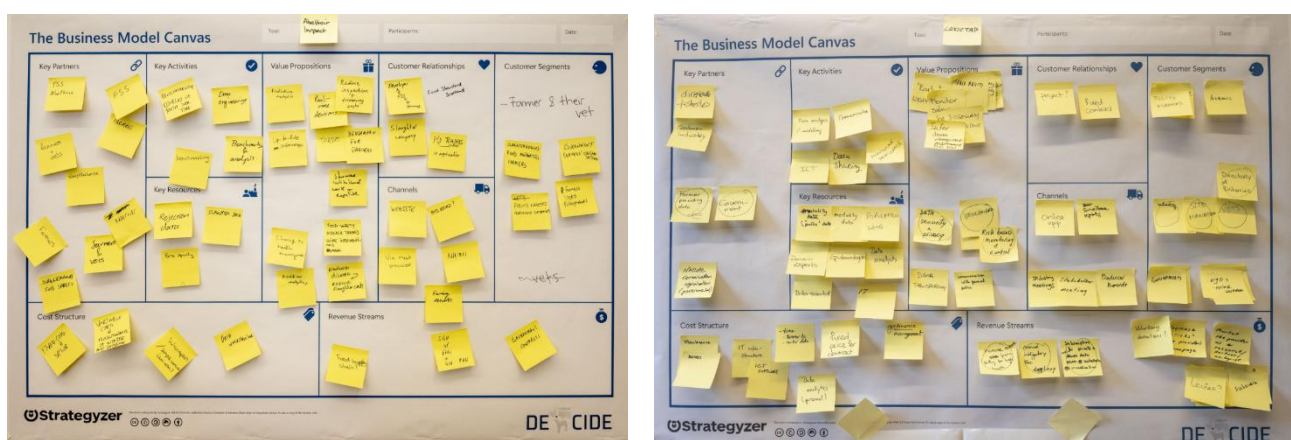


Figure 5. Draft business model canvases after Workshop 1 on exploitation of DECIDE project results.

This process aimed to aid tool developers to identify opportunities and threats, understand their competitive advantage, and tailor their offerings to meet the demands of end-users. Also, by participating in the first

workshop, tool developers were encouraged to think beyond the intrinsic and scientific value of their tools. Each tool was discussed with input from all partners, generating ideas for potential businesses applications, whether non-commercial or commercial. After the workshop, participants were encouraged to discuss their business models with their colleagues back home for further refinement and to prepare for workshop 2.

2.2 Roadmap ideation meeting

During this meeting, Professor George Gunn from SRUC provided guidance to the WP6 RfE team on creating a roadmap for exploitation. The meeting took place at Royal GD in Deventer, the Netherlands, where the progress and results obtained from WS 1 were discussed. Additionally, we brainstormed about the needs for exploitation of the tools. The outcome of the meeting highlighted, that every successful product has a compelling story about its role and relevance in the world. It is a critical component of business model development, to articulate the vision and purpose of a developed tool in a way that is easy to understand to diverse end-users, whether an expert, a farmer or any member of society. Story telling provides context and meaning, making it easier for (non-scientific) stakeholders and potential customers/end-users (named customer in the remainder of this report) to grasp the essentials of what the tool aims to achieve and why it matters. The tool developers were requested to articulate the overarching vision of the tool, the problem it solves, the user it was designed for, and its future potential. This above-mentioned story aimed to provide a general understanding of why the tool is needed.

Following the meeting, all tool developers were contacted and provided with a template. They were requested to provide the following information in preparation for the second workshop at Schiphol in October:

1. **Exploitation readiness level (ERL):** This is correlated with the Technology Readiness Level as presented in D3.2 "the description of developed decision support tools", with the difference that the development phase of the product is only the first phase towards exploitation in the ERL. Additionally, ERL also includes aspects such as creating a business model, defining the value proposition, and actual implementation.
2. **Product story:** tool developers were asked to write a short story for the target audience detailing how their tool would function in the field. The story would address:
 - The context in which the tool was developed
 - How the tool works
 - Who the tool was developed for
 - The pain the tool relieves
 - The potential future field implementation
3. **Refined business model:** Developers were asked to refine their business model based on the results of WS 1 and subsequent discussions with colleagues, potential clients and potential key partners (see section 3.2.8).
4. **Exploitation plans:** Developers were requested to outline their immediate, medium-term and long term future exploitation plans for their tool. This includes detailing what has already been achieved regarding exploitation, plans for the remaining duration of the DECIDE project and post-project plans.

The requested information was submitted to the workshop organisers before the 10th of October to enable the inclusion of this input in the preparation for workshop 2.

2.3 Workshop 2: Business model refinement and strategic planning towards exploitation

Towards the final half year of the project, the developed decision-support tools have reached the highest possible technology readiness level (see also D3.2 and D3.3). During the second workshop on exploitation, tool developers were therefore guided in strategic planning of exploitation activities during the lifetime of the project and beyond.

The workshop lasted one day and consisted of three elements each building on the information that was provided by the tool developers in preparation of the workshop: 1) storytelling, 2) business model refinement, and 3) strengths, weaknesses, opportunities and threats (SWOT) regarding exploitation of tools on a short to mid-term after the DECIDE project finishes.

The workshop started with all participants pitching the story about their tool. Business models are continually evolving due to changes in preferences of customers and technological advancements. Also, new partnerships and collaborations can open up additional revenue streams. During the first workshop, tool developers drafted a first version of a business model, which was to some extent based on assumptions. In between the workshops, the business models were refined, and assumptions were checked. A new version of the business model was then delivered as input for the second workshop. In the second workshop, these assumptions, e.g. regarding key customer segments, cost structure and revenue streams, were further scrutinized in group discussions. Additionally, the added value, essential activities/personnel, and resources required were thoroughly evaluated and processed in an improved version of the business model. Towards the end of the DECIDE project, the business models may further evolve and it is important to constantly check the assumptions until they are validated through research and interviews. All elements of the business model should be clearly defined when planning implementation and exploitation of developed products, as each component of the business model drives the other.

In the final part of the workshop, each participant presented which actions had been undertaken so far in terms of exploitation of the tools (e.g. pilot testing, evaluation activities, building relationships with potential end-users, etc.) and what is foreseen during the remaining lifetime of the project (short-term) and mid and longer term (up to 4 years and up to 10 years after the project ends). Each participant then individually drafted a SWOT matrix for the exploitation of their tool. By doing so, participants were encouraged to identify potential future challenges and opportunities regarding exploitation. During a plenary discussion of the tool-specific SWOT matrices, a generic SWOT matrix with common factors that may either hamper or stimulate exploitation and uptake of the DECIDE project results was generated.

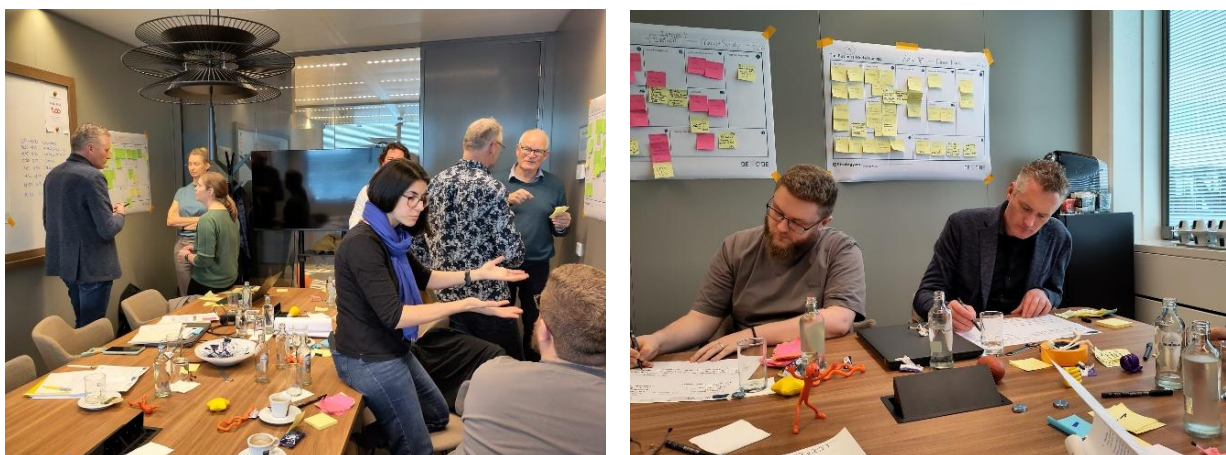


Figure 6. Interactive participation in workshop 2.

2.4 Workshop 3: Exploitation of DECIDE tools according to the external advisory board (EAB) members

The three hour online meeting with the external advisory board (EAB) provided an opportunity to gather relevant insights for tool exploitation from potential key partners and vendors. The DECIDE EAB includes representatives from universities not involved in the project (Royal Veterinary College, University of Strathclyde), University of Leuven), industry stakeholders (Danish Agriculture and food council, Dutch meat producing industry (COV)), and the Federation of Veterinarians of Europe (FVE).

The workshop organised during this meeting aimed to:

- Inform the EAB members about the progress of the roadmap for exploitation.
- Identify additional factors that contribute to maximum uptake and sustainable exploitation, beyond the information provided by the tool developers.
- Distil generic SWOT aspects together with the EAB members that are relevant for multiple tools.

In preparation for the online workshop, we invited the EAB members to choose one tool and answer the following questions for the selected tool:

1. Would the developed tool serve as the final product for your needs? and
2. How would you exploit this tool?

By focussing on a single selected tool, we aimed to move beyond abstract implementation and obtain more specific contributions from the EAB members. During the workshop, each EAB member briefly presented their chosen tool and the aspects they regarded as relevant to exploitation. This was followed by a SWOT analysis using a MIRO dashboard, where EAB members filled and discussed the four SWOT matrix quadrants for the data based DECIDE tools. The results of this exercise were summarised and compared to the earlier SWOT analysis of the tool developers.

3 Results

3.1 Current status of the various DECIDE tools in the road to exploitation

For each of the developed tools the product development phase or the exploitation phase was provided by the tool developers (see Annex 1 for more details). For a description of each of the tools we refer to D3.2 of the DECIDE project “the description of developed decision support tools”.

Given that, especially, the exploitation phase consists of an ongoing iterative process, the tool developers indicated the status of their tool at a set date i.e. October 28, 2025. Figure 6 shows the wide variety of the development phases of different tools. Tool number 6 (*PigHealthDashboards*) and number 9 (*Calf health support tool*) are still in the phase of prototype development. Tool 3 (*Cattle barometer*), 7 (*Laksetap*) and 10 (*Pig health check*) are the most advanced, with the tools already being implemented in practice. The other tools are under current evaluation (see D3.3 for further details) or are in the phase where the first steps to exploitation are taken.

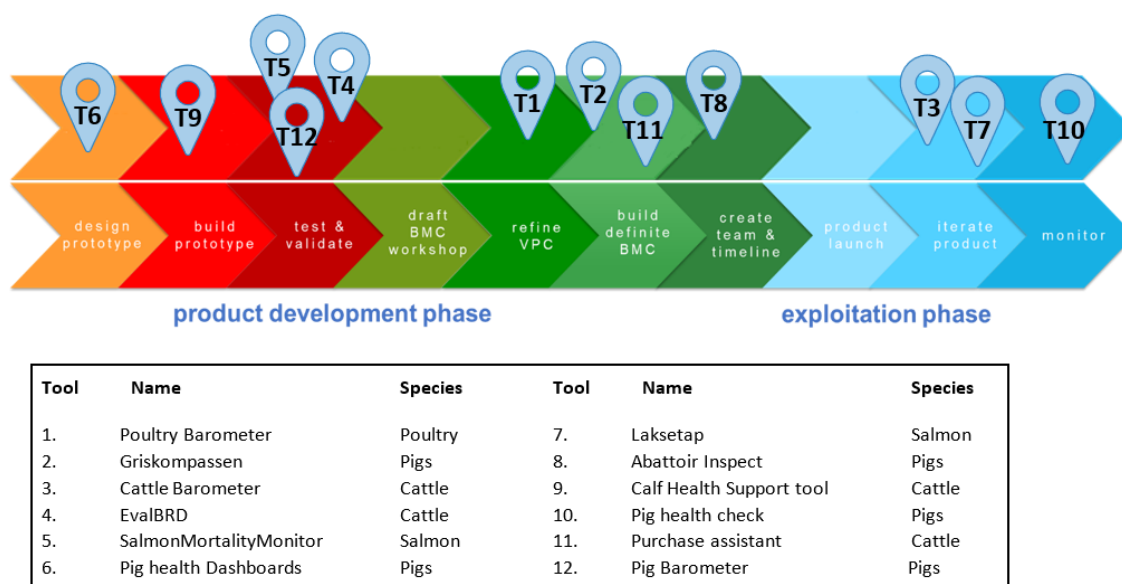


Figure 7. Overview of status of the various DECIDE tools in the road to exploitation (October 28, 2025).

For each of the developed tools, the story behind the tool was created to explain the use and added value of the tool to the potential customer. We chose to write these stories not in a technical manner but focused on a comprehensible story that describes the added value of the developed tool in a way that would appeal to a large audience. Even though the stories describe a case setting in which the tools are applied, they do address all the relevant information needed for exploitation.

For each of the tools, the story created was included in the detailed roadmaps to exploitation (appendix 1). Below is an example of a story for tool number 2, *PigPeaks*, also known as *Griskompassen*.

The setting in which the tool would be of added value

On the rolling fields of southern Sweden, among red painted barns and the scent of freshly turned soil, lived a group of pig farmers who carried more responsibility than most imagined. Their herds were not just animals—they were the beating heart of their livelihoods. Every farrowing, every litter, every cycle of life was carefully noted: births, deaths, litter sizes, and the subtle rhythms of the herd.

The pain or need

Each year, these records would be bundled up and sent to the advisor organisation, where experts compared them to national benchmarks. They returned with thick reports: what was going well, where improvements could be made, and how health trends whispered warnings before disaster struck. Abattoirs, too, added their own cryptic signals through inspection data.

Yet, despite all this, the true treasure within the data remained locked away, like a map never unfolded. Farmers had pieces of the puzzle, advisors had another, the abattoirs a third—but no one held the whole picture.

How the tool works

*That is, until the arrival of **Griskompassen**.*

Griskompassen was more than software. To the farmers, it became their navigator, their compass through the stormy seas of production and health. Suddenly, the tangled knots of spreadsheets and annual reports transformed into a living, breathing dashboard of insight.

With it, they could see their herd's story unfold in real time: how this year's litter sizes stacked against the national average, how early warning signs of health issues flickered before becoming costly problems, and how every decision—from feed to breeding—shifted their course.

For whom it was developed

Word spread quickly. Farmers who once trudged

through paperwork late into the night now stood in their kitchens with coffee mugs, scrolling through Griskompassen on tablets, charting the future of their farms. Advisors, too, found themselves equipped with sharper tools, able to guide their clients with precision instead of broad strokes.

One farmer, Karin of Västergötland, had long struggled with unexplained health problems in her herd. The annual reports had always noted "slightly above average losses," but nothing actionable. With Griskompassen, she spotted the pattern instantly: problems spiked every autumn, right after a new batch of feed was introduced. Acting early, she worked with her advisor to adjust storage and timing. That year, her herd thrived like never before.

A case example farmers can identify with

The farmers began to see themselves not just as caretakers of animals, but as adventurers navigating an ever-shifting landscape of numbers, health, and production. Their herds became more resilient, their businesses stronger, and their lives—while still rooted in the soil and seasons—were now guided by the quiet power of Griskompassen.



And so, from scattered notes and hidden signals, a new era dawned on Swedish pig farming. An adventure not of swords and dragons, but of data and discovery—where the quest for healthier animals and sustainable livelihoods was charted on a compass of their own making.

Future perspectives

3.2 Business model canvasses

The business models following the second workshop were regarded as the final version that was used in this deliverable. It is important to highlight here that a business model is a dynamic tool that will evolve over time. For some of the tools, the version presented in the deliverable may already be outdated by the end of the DECIDE project. In fact, it is highly recommended to keep on evolving and even redesign or build a new business model. This is an essential part of the process of successful implementation and exploitation of products. The most important aspects of the business models will be described in the following paragraph. The tool specific ones including all detailed information can be found in the appendix (Annex 1. Detailed roadmaps to exploitation).

3.2.1 Customer segments

In the section on customer segments, the tool developers identified the most important customer for their tool i.e. the group of people the tool was initially developed for. This is the segment that is identified using the value proposition canvas. The value of the tool is represented by the pain that can be relieved for the customer, thus being the most desirable tool. For several tools, the developers selected multiple customers, for example farmers and veterinarians. The tool developers were challenged to develop an understanding of their target customers, in regards with their willingness to provide the revenues foreseen for the tool. Is the value proposition strong enough for them to be willing to pay for it. It is also important to mention that the customer who provides the revenues does not always has to be the end-user.

From the twelve tools that were included in this deliverable, the farmer and/ or veterinarian were indicated as most relevant customer for seven out of twelve tools. These tools mainly support evidence-based decision making at the level of the individual farm (Figure 8). Additionally, several tools also provide insight across farms to inform the industry, authorities or producer organisations. Two tools (T4: *EvalBRD* and T7: *Laksetap*) also aim to educate (future) scientists. Finally, besides the above-mentioned customers, specific tools can also be used for a specific group of stakeholders. For example, the Cattle Barometer (T3) can provide information to laboratories within countries to enable comparison of their lab results to the Barometer data within their own country and in other countries.

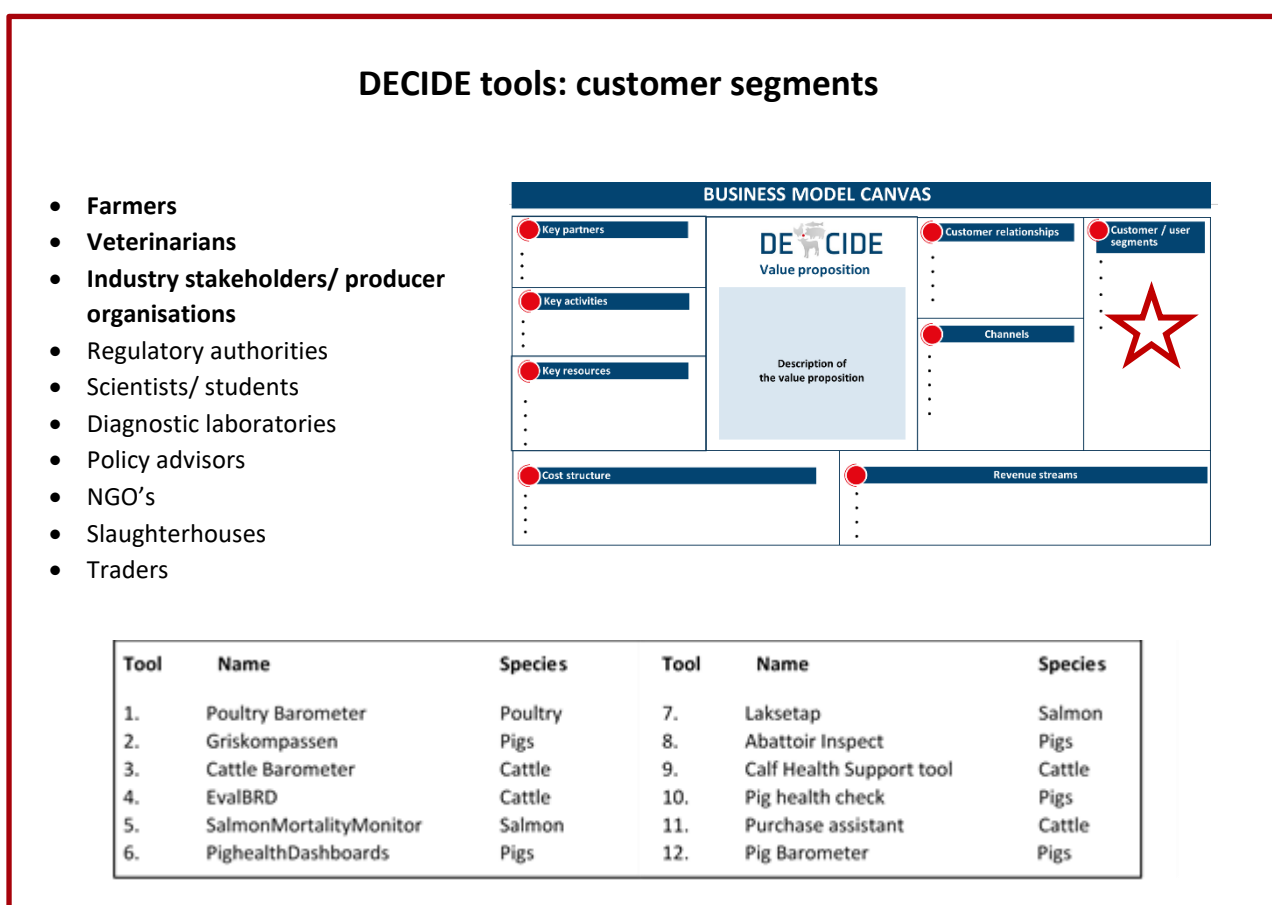


Figure 8. List of various DECIDE tool customer segments. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

3.2.2 Customer relationships

In the section 'customer relationships' the tool developers provided information on how interaction would be achieved between the tool or product owner (vendor or operator of the eventually developed tool) and the customer, or the bond a customer feels with the product/producer.

Most tool developers foresee a customer relationship. So, when the customers were indicated as farmers, often direct contact with the veterinarian was seen as a way to build a relation with that customer. Additionally, multiple tool developers mentioned that direct contact between the product owner and the customer would be facilitated by means of a helpdesk (Figure 9). Where most tool developers focussed on the parties that could act as a partner between the tool owner and the customer, some also indicated other means of how the interaction could be achieved such as providing information via self-service, webinars or newsletters.

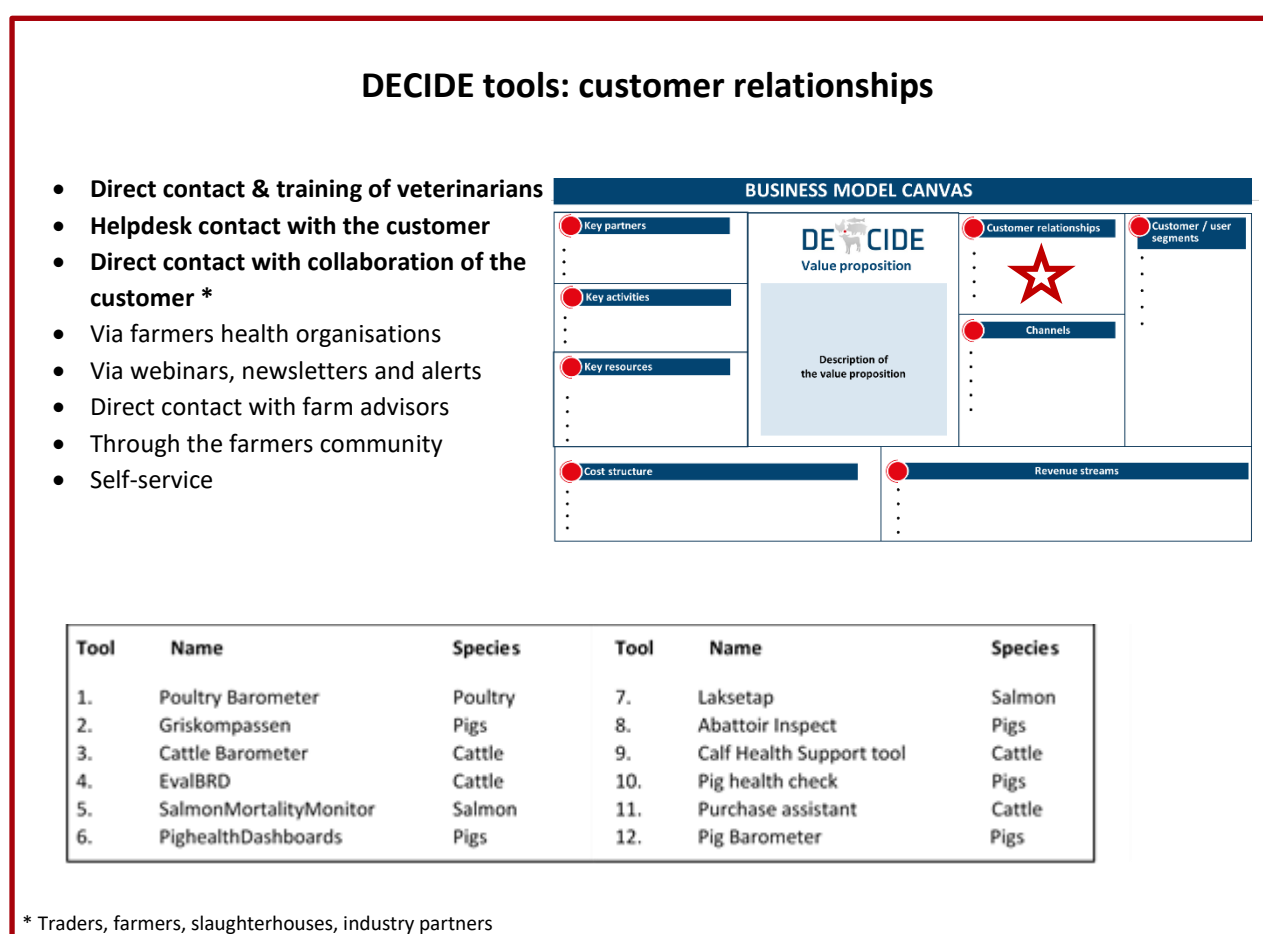


Figure 9. Building a relation between product owner and the DECIDE tool customers. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

3.2.3 Channels

In the 'channels' section the tool developers indicated how the data-based information was delivered to customers including:

- The routes the customer needs to take to access the tool
- How awareness about the tool is raised
- How the value of the tool is delivered to potential customers.

DECIDE tools are generally delivered to the customer via existing online apps or dashboards. People are informed about the tools' existence and added value through presentations and demonstrations at industry meetings (Figure 10). Additionally, general marketing channels are utilised to inform potential customers and tool developers mentioned newsletters, website, social media and E-learning. Finally, for four tools, the developers plan to use direct contact with the customer as a channel to bring the tool to the customers. This direct contact can either be initiated by the tool developers themselves or by veterinarians as partner.

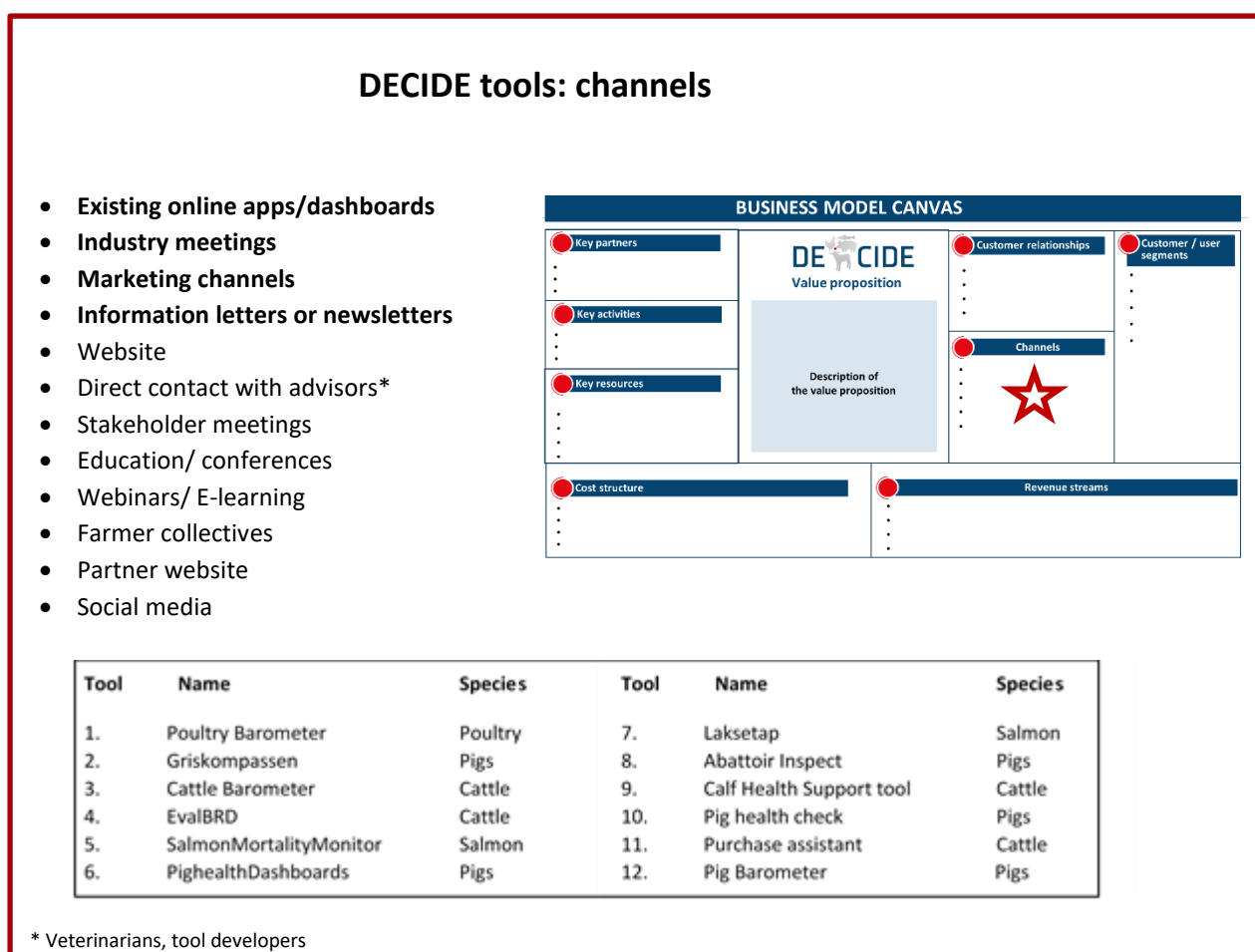


Figure 10. Means to interact with the DECIDE tool customers. The four most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

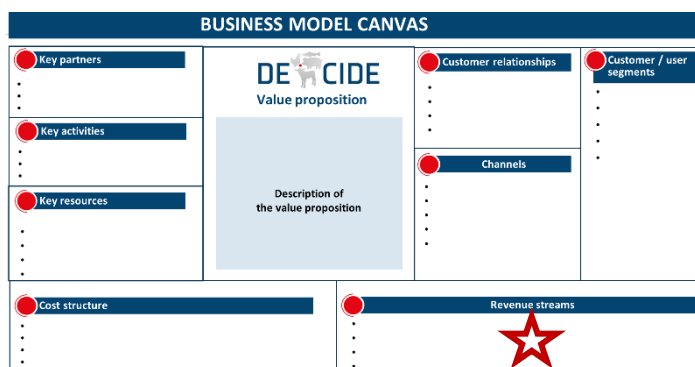
3.2.4 Revenue streams

In this section, the tool developers indicated how the customer will pay for the use of the DECIDE tool.

Most developers foresee a system in which the customer pays a licence fee, either on a frequent basis (e.g. monthly, quarterly or yearly) or at every use. Other revenue streams that are foreseen by multiple tool developers for exploitation of the developed tools are governmental/ public funding (T2, T3, T5 and T10, Figure 11) or indirect funding by increased customer uptake or other services offered e.g. diagnostics (T1, T6 and T12, Figure 10). In this case, an animal health service will host the tool and carry the costs and their customers can use the tool for free. The revenues consist of increased customer loyalty. Other revenue streams include payment through levies, and institutional support (for educational tools).

DECIDE tools: revenue streams

- **Subscription fee/ license**
- **Governmental funding**
- **Indirect by extended service to customer for other products**
- Levy's
- Institutional support for education



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 11. Foreseen revenue streams for various DECIDE tools. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

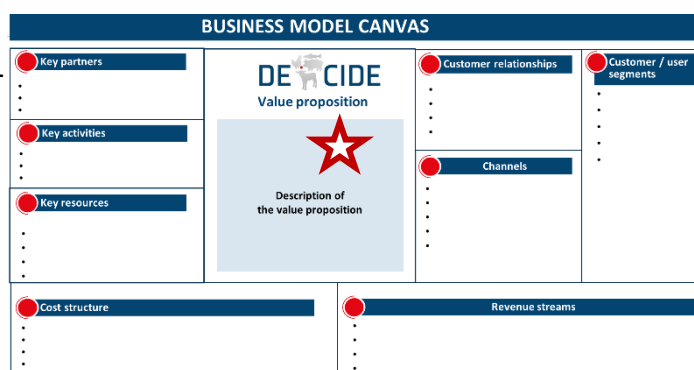
3.2.5 Value propositions

In the section 'Value Propositions,' the tool developers were challenged to consider the value their tool would create for customers. This indicator included a description of the product or service the tool would deliver and focused on the pain relievers their tool would address.

A wide variety of value propositions were identified for the tools developed within DECIDE. The top values that the developed tools are expected to create include 'informed decision-making' (11 out of 12 tools), which could occur at various levels such as the individual animal or group of animals (e.g., T9, T11), the farm level (e.g., T4 (Figure 11), the industry/country level (e.g., T1, T3 and T12 (Figure 12), or even support multiple levels (most tools). Other frequently mentioned value propositions included increased insight at the national level (7 out of 12 tools) or individual herd level (4 out of 12 tools), disease prevention (5 out of 12 tools), or early warning when disease occurs (6 out of 12 tools) (Figure 11). Of course, the tool itself will not prevent disease, however, actions taken based on its information can.

DECIDE tools: Value propositions

- **Informed decision making**
- **Increased insight: national level/ benchmarking**
- **Disease prevention**
- Early warning
- Increased insight: own farm
- Improved efficiency
- Increased data accessibility
- Centralisation of data
- Teaching/ open science
- Improved welfare
- Differentiation of farms based on quality/ health



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 12. Value propositions of the various DECIDE tools. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

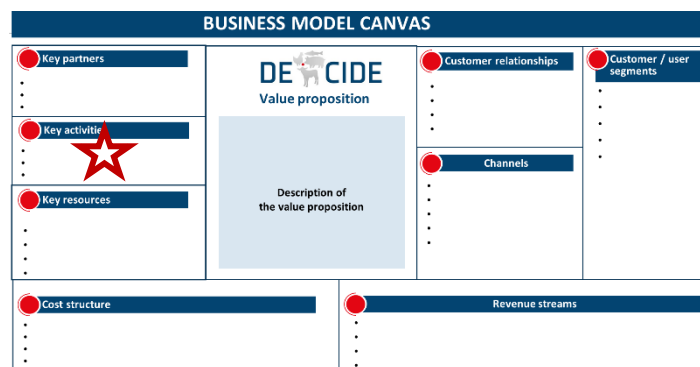
3.2.6 Key activities

The section 'Key Activities' describe the actions required for the tool to deliver its intended value. These activities include gathering input data for the tools, transforming the data into meaningful output, and managing the IT infrastructure essential to host the tool and provide the output.

The key activities involved in the exploitation of the DECIDE tools, as outlined by the tool developers, include data analytics tasks such as automated pipeline generation and processes to produce the tool's output (Figure 13). Another critical activity for successful exploitation is the development and maintenance of interfaces to communicate the tool's output to customers. Additionally, training was identified as a significant activity for several tools. This activity can involve developing training materials and providing courses to key partners, who can then add value by working directly with customers to implement the tool's output at the farm level.

DECIDE tools: key activities

- **Data analytics/ pipeline**
- **Develop & maintain interface**
- **Training**
- Data sharing
- Customer support/ engagement
- Continued development
- Collection of complete data
- Incorporate latest test results



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 13. Key activities in the exploitation of the various DECIDE tools. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

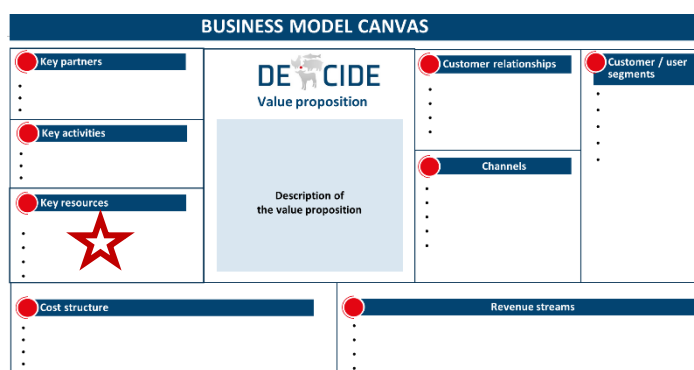
3.2.7 Key resources

In the section ‘Key Resources,’ the tool developers identified the human and technical resources needed to exploit the tools and generate revenue.

The primary resource required are personnel hours to utilize, maintain, and further develop the tool. Secondly, data is crucial for feeding the majority of the tools, which must be continuously updated to ensure the output remains timely and relevant. All tools require some form of animal health or diagnostic data. Additionally, five out of 12 tools (T4, T6, T7, T9 and T11) require context data on farm management, and two tools (T4 and T5) even indicated to require economic farm data (Figure 14). Another key resource identified for most of the tools is IT support, which includes assistance in development and automation, as well as hosting websites through which the tool can be utilized. Finally, several tools (t3, T6, T7 and T10) require knowledge networks to support further development and provide guidance on communication and dissemination aspects.

DECIDE tools: key resources

- **Personnel**
- **Diagnostic/ health data**
- **Webhosting/ IT support**
- Management/ context data
- Knowledge network
- Economic data
- Public web/ calculation servers



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 14. Key resources required to deploy the various DECIDE tools. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

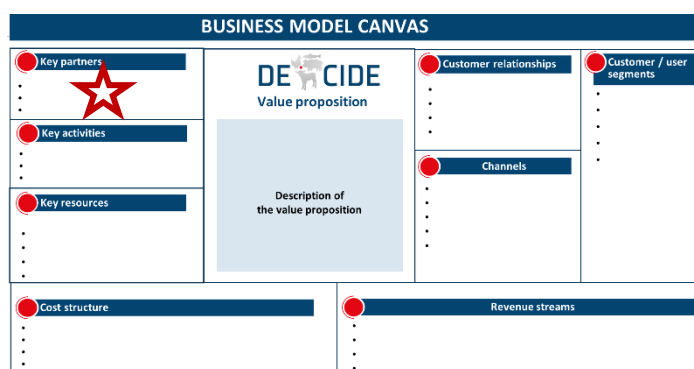
3.2.8 Key partners

In the 'Key Partners' section, the tool developers identified essential resources that cannot be provided by the tool vendor or operator alone. These resources include key suppliers and partners in areas such as exploitation, IT, and field expertise.

The most important key partners identified include farmer or producer organizations (8 out of 12 tools), laboratories (7 out of 12 tools), and veterinarians (6 out of 12 tools) (Figure 15). There were various reasons why certain groups or organizations were indicated as key partners. For example, laboratories, data suppliers, farmers, and abattoir companies were identified as key partners because their data is needed to feed the developed tools. Producer organizations, animal health services, and veterinarians were highlighted as key partners who can communicate and demonstrate the added value of the tools to customers. National authorities, research institutes, and in some cases, farmer or producer organizations were identified as key partners because they may provide the funding needed for exploitation.

DECIDE tools: key partners

- **Farmer/ producers organisations**
- **Laboratories**
- **Veterinarians**
- Animal health services
- ICT service providers
- Data suppliers
- Research institutes
- Farmers
- Feed suppliers
- National authorities
- Abattoir companies



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 15. Relevant key partners in exploitation of the various DECIDE tools. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

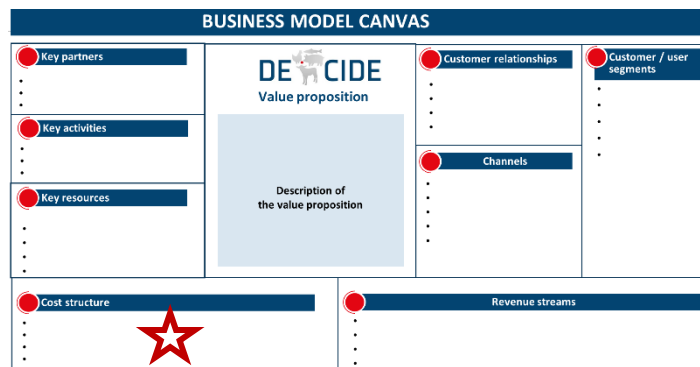
3.2.9 Cost structure

In the section describing the ‘Cost Structure,’ all costs associated with the elements of the business model are included, whether they are fixed or variable.

The most significant costs related to implementing all aspects of the business model are associated with the further development and maintenance of the tools once they are on the market (Figure 16). These, of course, include personnel costs, costs related to data infrastructure, and expenses for marketing and dissemination. Some tools developers indicated that there might be costs involved with the purchase of data needed as input. Finally, there are costs related to training either the customer or advisors who can subsequently support the customer apply and use the tool.

DECIDE tools: cost structure

- **Development and maintenance**
- **Personnel**
- **Data infrastructure**
- Marketing & dissemination
- Data
- Training programme
- License dashboard programme



Tool	Name	Species	Tool	Name	Species
1.	Poultry Barometer	Poultry	7.	Laksetap	Salmon
2.	Griskompassen	Pigs	8.	Abattoir Inspect	Pigs
3.	Cattle Barometer	Cattle	9.	Calf Health Support tool	Cattle
4.	EvalBRD	Cattle	10.	Pig health check	Pigs
5.	SalmonMortalityMonitor	Salmon	11.	Purchase assistant	Cattle
6.	PighealthDashboards	Pigs	12.	Pig Barometer	Pigs

Figure 16. Cost structure for exploiting the various DECIDE tools and implementing the business model. The three most frequently mentioned are presented in bold and the box provide the name and number of the tools where this list was based on.

3.3 Exploitation timeline

In the exploitation timeline the tool developers provided an overview of the exploitation activities that were already conducted, the plans for the final eight months in the DECIDE project and the activities after the project ends.

The initial exploitation activities were already implemented from the start of the DECIDE project with WP5 assessing stakeholder needs related to the development of data tools. The output of these evaluations in different partner countries, which acted as starting point for the tool development phase, can be found in D5.2 “Case-specific reports on potential of different data tools from WP3”. In M54 of the project, the various tools are in different stages of development as described in the beginning of the results section. This varying stage of development indicates different actions to be taken in the road to final exploitation. While some of the tool developers are planning to discuss implementation with potential customers or key partners in the final six months of the project (e.g. T2, T3, T8 and T11), others foresee such actions after the DECIDE project has ended.

The exploitation activities conducted so far can be split in three different focus areas in terms of contacts:

1. Contact with potential customers: Meetings, demonstrations, workshops and pilot groups are organised to test and discuss tool prototypes and to get feedback on aspects as easiness, added value and what the output should look like. This information serves as input for further tool refinement to ensure a good uptake after implementation.
2. Contact with potential key partners: tool developers focus on informing them about the status quo, invite them for pilot testing and tool evaluation. All activities aim to get them involved to maximise support and uptake when the tools are implemented.
3. Contact with potential vendors or operators: the tools are presented with a focus on both the tool and its output. Additionally, potential for implementation is discussed.

A thorough description on the exploitation activities that were already conducted will be described in detail in *D3.3 Report on evaluation of usability and usefulness of the decision support tools*.

In the final months of the project, the exploitation actions depend on the stages of development of the tools. Most tool developers are finalising the evaluation activities and are planning to use this time to refine their tools based on the collected feedback from the different focus areas. Additionally, some tool developers are already focussing on field implementation by setting up meetings with potential vendors or operators (e.g. T3, T8 and T11, see Glossary). Other tool developers already plan to develop promotion materials for an awareness campaign (T10, see Glossary) or to create training or communication materials (T4). Such activities are also foreseen after DECIDE ends for many of the other developed tools. Nevertheless, for the tools that are currently still in a low TRL (e.g. T1 and T9, see Glossary), further development and optimisation is planned in the short to mid-term period after DECIDE ends. Finally, in the long term, tool developers believe that many of the tools will be implemented on their own or will be embedded in a larger animal health and welfare programme. Many opportunities are seen for expansion of the tools by either adding data or functionalities, or by expanding the current tools to other species and include more target countries (Figure 17).

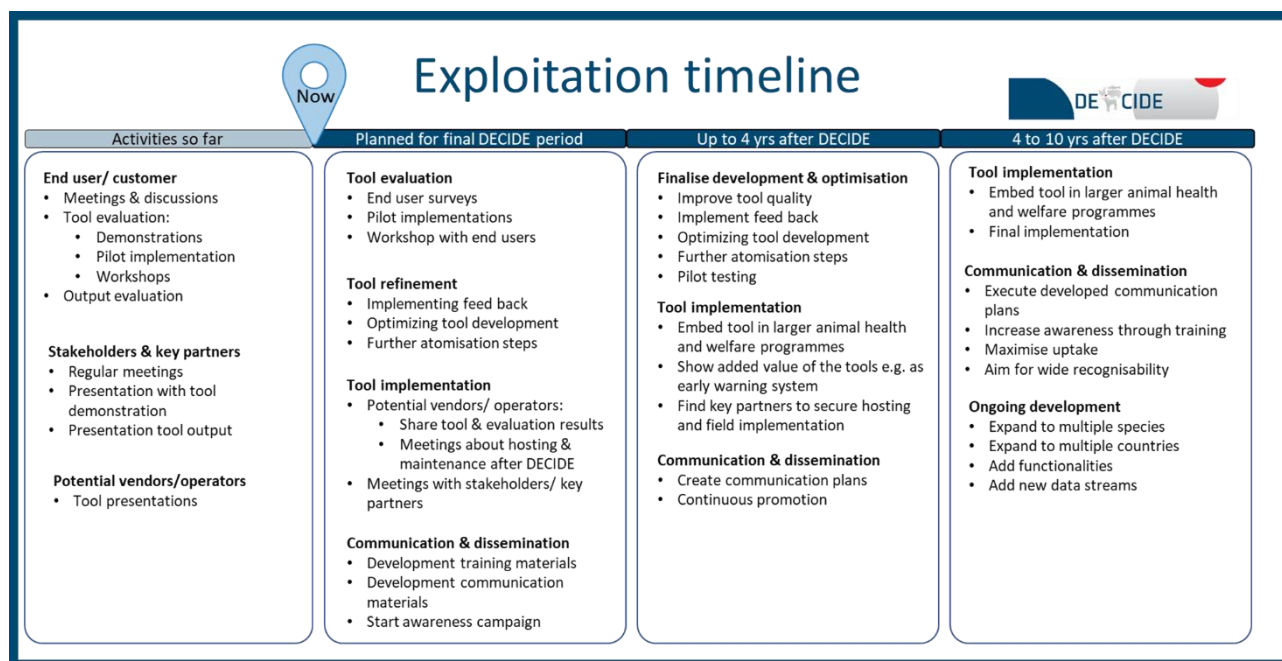


Figure 17. Summary of the exploitation timeline of the DECIDE tools.

3.4 Generic SWOT analysis for DECIDE data tools provided by the tool developers

Across all the developed tools, there are many similarities in strengths, weaknesses, opportunities, and threats (SWOT) on the road to exploitation and field implementation. Together with all tool developers, these SWOT points, which may be relevant for the development and implementation of data tools in general, were summarized (Figure 18).

Generic strengths include the ease of use and accessibility of the tools. The tools are freely available, can be easily expanded, are tailored to user needs, and are relevant for many customers. Acknowledged weaknesses include the current lack of IT support and potential vendors or operators. Additionally, the high dependence on data owners is seen both as a current weakness and a future threat to exploitation. Other generic threats for data tools include delays associated with GDPR compliance, the risk of data misuse and misuse of tool outputs, a lack of trust, demand for perfection, and the fact that willingness to pay for the tool depends on market volatility (Figure 18). On the other hand, the flexibility of data tools, which makes them easily scalable and well-suited for ongoing development and the inclusion of new species and countries, is regarded as a significant opportunity for exploitation.

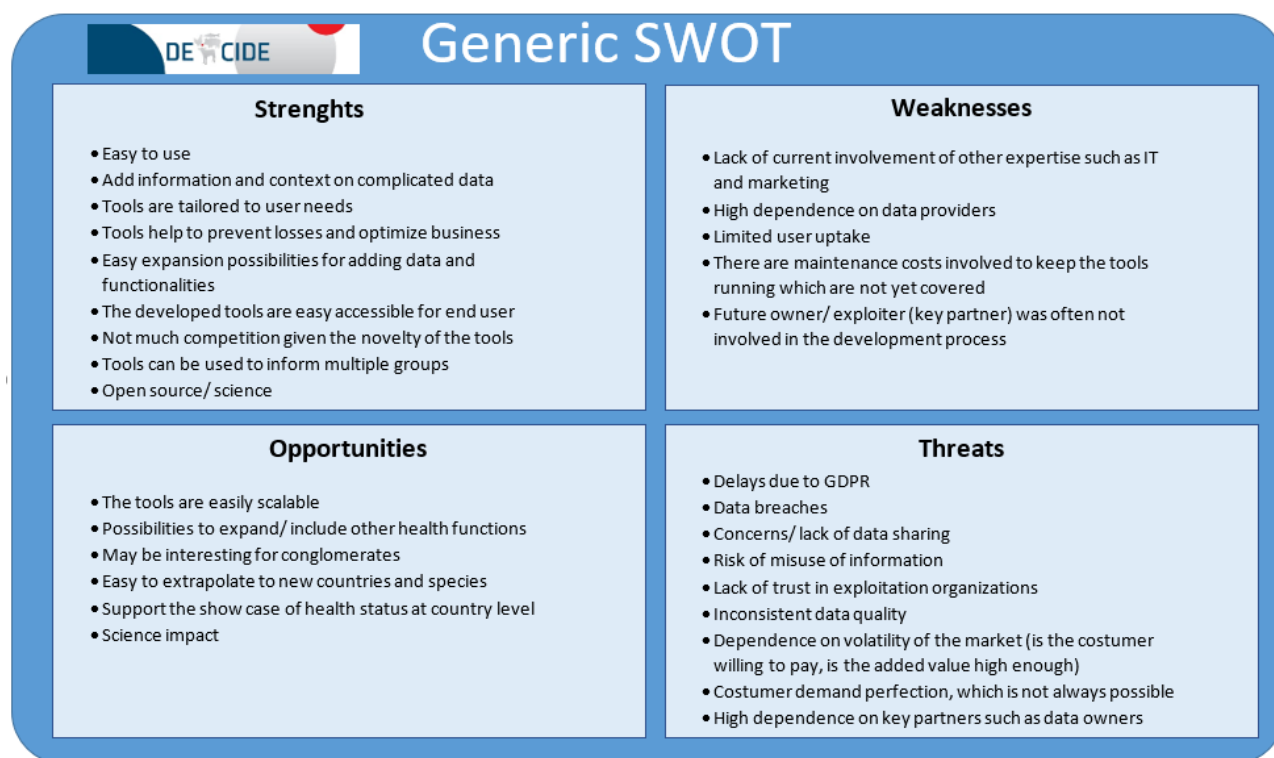


Figure 18. Result of the generic SWOT analysis for DECIDE data tools, according to the tool developers.

3.5 Exploitation of DECIDE tools according to the external advisory board members

The generic SWOT generated by the EAB members (Figure 19) contained several similar items also mentioned by the tool developers (Figure 18). However, due to the fact that they are detached from the DECIDE project and tools, as well as their diverse (sometimes non-academic) backgrounds, a number of new aspects emerged.

Regarding strengths complementary to those identified by the tool developers, it was highlighted that the developed tools were scientifically validated and focussed on optimising animal health and production. Additional weaknesses identified included that some tools were not specifically developed in response to a clear need, the potential difficulty in implementing the tools across a diverse range of farms, and the potentially limited outreach, especially when targeting individual farmers and veterinarians.

The EAB members indicated significant potential for future opportunities. In addition to those identified by the tool developers, the EAB members saw possibilities for the tools to provide uniform and automated input to comply with requirements set by the European Animal Health Law. They also noted the rapid digitalisation of the world, including the identified customers of the tools, and the increasing support from technology for further tool development. The EAB members further identified the potential for educating farm advisors so they can better assist farmers using these tools.

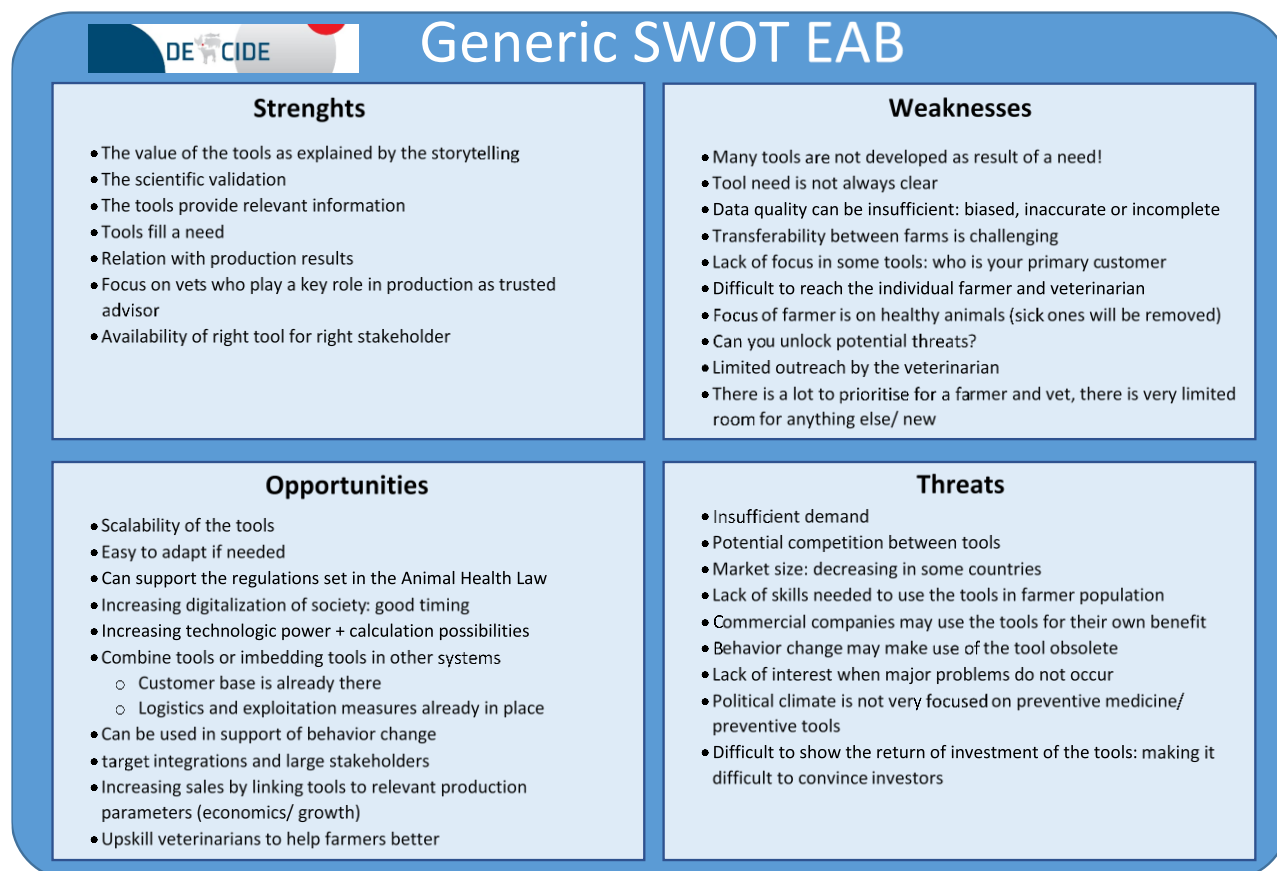


Figure 19. Result of the generic SWOT analysis for DECIDE data tools, according to the external advisory board (EAB) members.

Identified threats mainly focused on a limited or decreasing demand due to a lack of added value (e.g., the tool fulfilled its purpose and created healthy animals and behaviour change, or it does not meet user demands) or a decreasing client base. Another threat identified was the perceived return on investment, as the monetary value of problems prevented by the tools can be difficult to quantify.

Based on the SWOT analysis results and the tool-specific discussions, the following advice for tool developers and researchers was provided by the EAB members:

- Evaluate the possibilities of combining (elements of the) different tools (especially within the same species) to increase the robustness and sustainability of the developed tools
- Assess the potential for integrating the developed tools into existing products (add-on), as this can significantly enhance the successful implementation of the tools.
- Provide information and scripts for educational purposes as a form of exploitation, which is already being implemented in DECIDE
- Make your business model as specific as possible. The current versions are sometimes too generic, although this also depends on the development phase of the specific tools.
- Focus on clients beyond primary production such as integrations, slaughterhouses, (corporate) veterinary practices, product boards or farmers organizations. It is easier to generate revenue streams

from these groups than from the individual farmers. Besides, these key partners may promote the use of the developed tools once implemented in the field.

- Highlight the importance of a compelling story with your product, as emphasized by the EAB members.
- Incorporate cost-benefits of endemic diseases to add additional value to the developed tools.

4. Next steps in the road to exploitation

The next steps to be taken vary among the DECIDE tools and depend on whether the tools are still in the development phase or have already entered the exploitation phase. Regardless of the development phase, all tool developers have thoroughly considered the added value of their tool, the pain points it would alleviate for the customer, and who the customer could be. Those aspects were reflected in the stories behind the tools, the organization of many workshops, meetings, and pilots with potential customers and stakeholders, and the implementation of an iterative process focused on 1. build, 2. measure, 3. learn and then returning to phase 1 again, building or improvement. This iterative process aligns with the Lean Startup Principle, which includes key elements such as the Business Model Canvas and the Value Proposition Canvas.

The process of working towards exploitation provided the DECIDE consortium with some key learning points:

1. Tool developers often have a scientific background and may lack knowledge about the commercial aspects of exploitation. This was reflected in the difficulty tool developers faced when considering commercial aspects such as who should pay for the tool, who would be willing to pay, how to build a relationship with the customer, and the costs involved in maintaining the developed tools after the DECIDE project. More effort is needed towards final implementation as illustrated in Figure 19.

Next steps: Depending on the stage of development, tool developers within the DECIDE consortium should seek support from colleagues within their organization with complementary expertise. These could include colleagues with commercial expertise, as well as those from IT and communication departments. They may be able to help address the gaps that remain in many of the developed business models.

2. Start with the creation of a business model from the beginning of the project. While working with the tool developers on a business model, we learned that although we included aspects like the value proposition and the customer segment from the start, it would have been beneficial to investigate other aspects of the business model, such as those mentioned below, from an early development stage as well.

Next steps: Evaluate the gaps in the business models. Even though every tool developer delivered a complete business model, these are dynamic and subject to constant evolution. Certain aspects of the business models, such as the cost structure, revenue streams, and how customer relationships will be substantiated, require further investigation.

3. Think beyond the lifespan of a research project. In the roadmap to exploitation, tool developers learned to think beyond the lifespan of the DECIDE project. For some developers, this was challenging as they are predominantly researchers. The approach encouraged them to think outside the box and beyond their own expertise. This mainly resulted in numerous ideas for further research and development as they had to indicate their plans for short- to mid-term implementation.

Next steps: The tools developed as part of DECIDE are at different stages of development and exploitation. Therefore, the path to final exploitation will differ for each tool. For some tools, there is still uncertainty about the quality or perceived added value by the customer, while other tools are already implemented in the field. During the final phase of the DECIDE project, interaction between different tool developers regarding ideas for implementation will be encouraged, and the key aspects that led to successful implementation of DECIDE tools will be shared.

4. Commercial versus non-commercial exploitation. For non-commercial utilization of DECIDE tools, there is a challenge in finding revenue streams to fund exploitation. Tools such as the Barometer are preferably hosted by a research institute trusted by all data suppliers. However, research institutes focus mostly on innovation and development and less on long-term implementation of non-commercial tools which might lead to maintenance disruptions. Later stage commercialization to solve such disruptions might lead to non-compliance by data providers, thereby weakening the tool.

Next steps: For tools intended for non-commercial exploitation, possible revenue streams must be discussed and identified. These can range from university funds, when the tool can also be used for further research or teaching, to public funding sources.

5. Key take away

The takeaway message from this deliverable is that creating a draft business model beforehand in a research project is highly beneficial for successful implementation of developed tools in the field. By creating a business model, gaps in development and the information needed to fill these gaps, become clear early in the process. This allows for identification and involvement of the right people who can help bring the research into practice. A business model is never truly complete and doesn't need to be. The most important thing is to let it evolve alongside the development of your tool in an iterative process to maximize success.

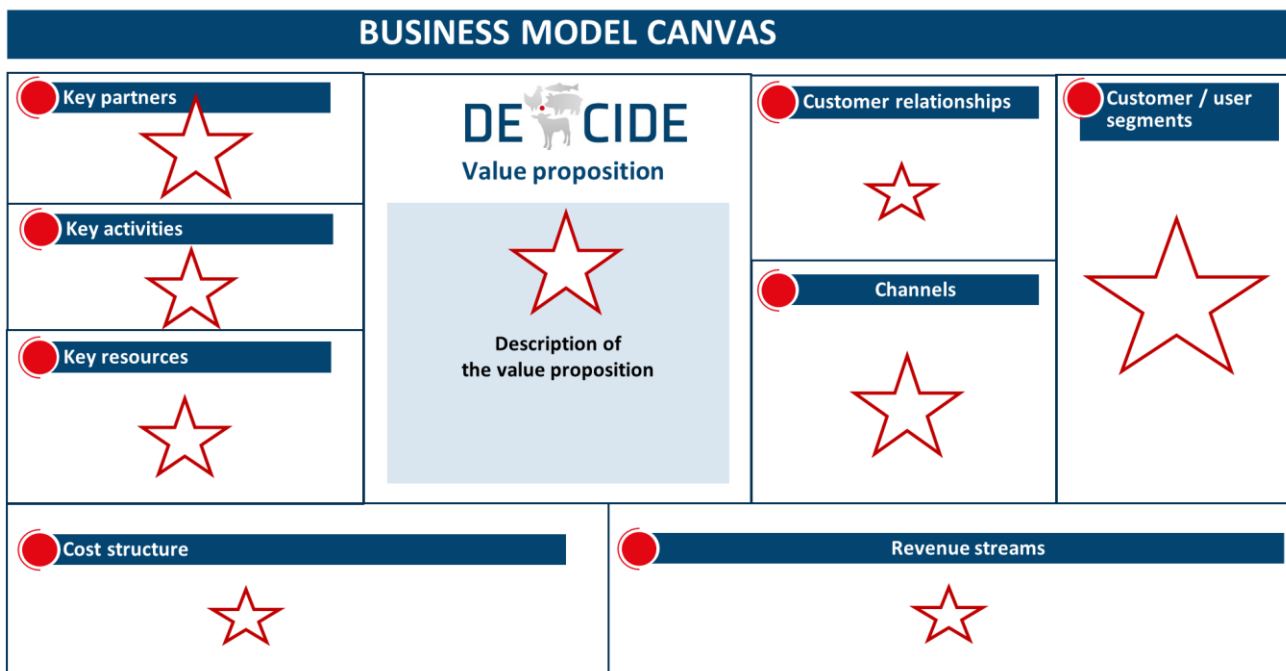


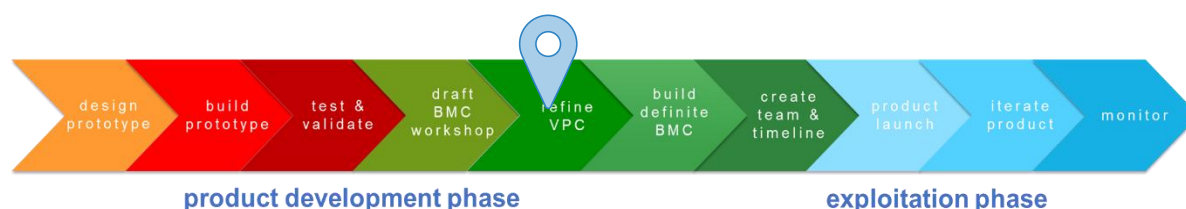
Figure 20. A summarized graphical representation of the state of the DECIDE tools, where a big star represents that the segment is investigated properly for a large majority of the developed tools. A small star indicates that more effort is needed towards final implementation.

Annex 1. detailed roadmaps to exploitation

T1: Poultry barometer

Name of the tool	Poultry barometer (IBV monitoring)
Species the tool is developed for	Poultry
Group in charge of the development of this tool	UU
Person in lead of tool development	Yara Slegers
Person in lead of tool implementation	Sjaak de Wit / Yara Slegers

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE POULTRY BAROMETER

It was a damp, grey morning when the call came through.

“Morning, Doctor,” said Jan, one of my regular broiler farmers. “We’re setting up for the next flock tomorrow. I wanted to check about the vaccination schedule—same bronchitis vaccine as usual, right?”

Jan was a meticulous man, the sort who kept every batch record in perfect order. His broilers were always in top condition, and he never missed a vaccine.

“Well,” I said, “let’s take a look before we make a decision. I’ve been using a new tool that keeps us up to date on which infectious bronchitis strains are circulating.”

When I arrived, the sheds were being cleaned down—high-pressure washers hissing, the scent of disinfectant sharp in the cool air. The metal panels gleamed under the strip lights, and the hum of the ventilation system filled the space.

Jan handed me a pair of disposable boots and gestured toward the office. Inside, the laptop sat open on the feed records.

“I hear there’s been talk about different strains again,” he said. “Hard to keep track of what’s really out there.”

*“That’s exactly the problem,” I said, opening my tablet. “The vaccine you’ve used—great for some strains—but lately we’ve been seeing shifts. This is where the **Poultry Barometer** comes in.”*

On the screen, a simple dashboard appeared: maps and charts showing the most common infectious bronchitis strains for the current month and region.

“See here,” I said, pointing. “QX has been the dominant field strain lately, and it’s on the rise again this month. The vaccine you used last round doesn’t cover it well. The Barometer lets us see that in real time, so we can adjust before the chicks even arrive.”

Jan leaned closer, studying the screen. “So instead of guessing, we match the vaccine to what’s actually circulating.”

“Exactly,” I said. “It’s like having a weather forecast for the virus—it helps us prepare, not just react.”

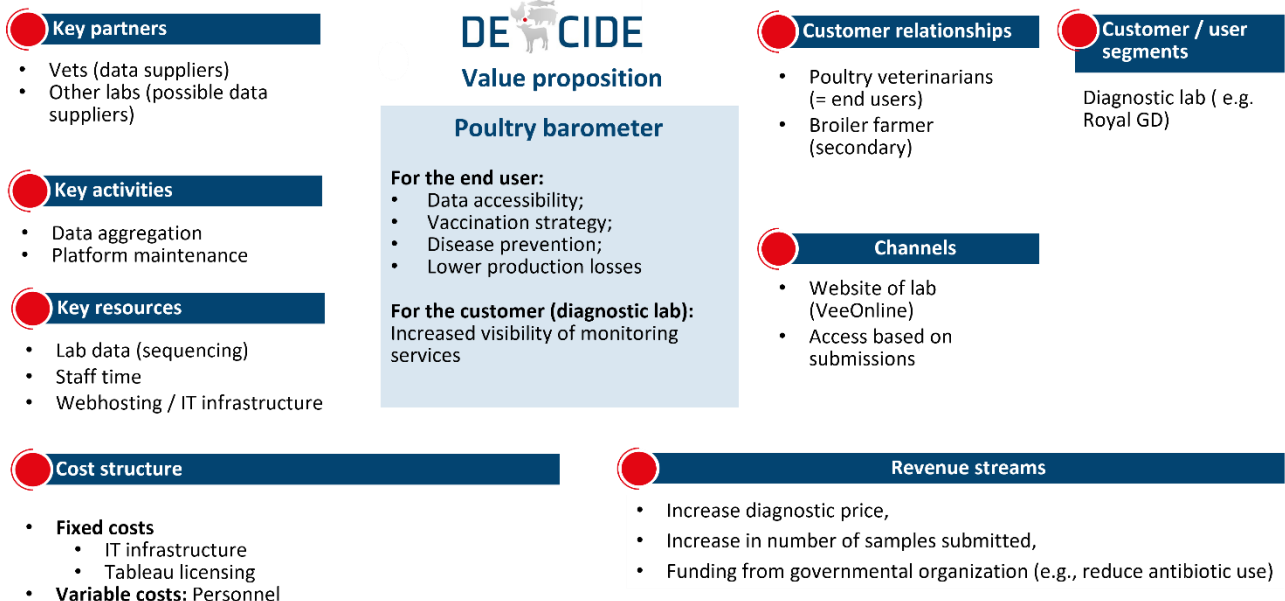
A few weeks later, I stopped by again. The new flock was uniform and calm. Jan looked pleased.

“Everything’s running smoothly,” he said. “No respiratory signs at all. Feels good knowing we’re using the right protection.”

I smiled. “That’s what it’s for. A small change, but it makes all the difference.”

As I stepped back into the autumn air, the air cool and dry, I thought about how much the work had changed over the years. The flocks might be bigger now, the farms more controlled—but the goal was still the same: healthy birds, and a farmer who can rest a little easier.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

- We presented the tool to poultry experts/veterinarians working at GD.
- We had one group discussion with poultry veterinarians to show the pilot tool and discuss usability and usefulness.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

- Check whether there are data privacy issues when lab results are shared on a regional level (before end of November)
- Check if there are already similar tools in other countries or from pharmaceutical companies (before end of November)
- Extend the evaluation with end users: at least with an online survey sent to European poultry veterinarians, and with one additional group discussion if possible. Adapt tool based on stakeholder input. (By end of the project)
- Fix issue with current tool: explore possibilities to separate field strains and vaccine strains. (By end of project)
- Discuss with GD whether they are interested in hosting the tool (by end of project)
- Create metadata, document decisions, and provide a cost structure. The dashboard (Tableau workbook), code and metadata will be made publicly available for other people to use in the future.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

- The goal is for GD (or another lab) to take up the tool.
- Explore global market expansion
 - Explore interest of (Italian) integrators. Also investigate whether it would be interesting for UU to create tools for these integrators in exchange for data sharing.
- Explore whether the tool can be adapted for PRRSV monitoring in pigs (together with GD).

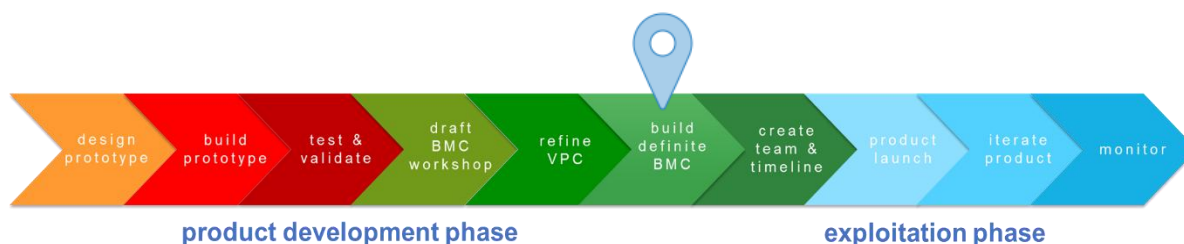
What are you planning with regards to exploitation at the long-term (4 - 10 years after the project)?

- If more labs offer whole genome sequencing, incorporate their data into the tool
- Possibly add a predictive model (strain prevalence in the next time period)

T2: Griskompassen

Name of the tool	Griskompassen
Species the tool is developed for	Pigs
Group in charge of the development of this tool	SVA
Person in lead of tool development	Wiktor Gustafsson
Person in lead of tool implementation	Swedish Farm and Animal Health organisation

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND GRISKOMPASSEN

Write a story about your tool focusing on the added value of your tool in the world (why was the tool developed and why should it be used). Use AI/ ChatGPT to help you to create an interesting story. Do not include technical details, make it adventurous or romantic, catch everybody's attention.....

On the rolling fields of southern Sweden, among red-painted barns and the scent of freshly turned soil, lived a group of pig farmers who carried more responsibility than most imagined. Their herds were not just animals—they were the beating heart of their livelihoods. Every farrowing, every litter, every cycle of life was carefully noted: births, deaths, litter sizes, and the subtle rhythms of the herd.

Each year, these records would be bundled up and sent to the advisor organisation, where experts compared them to national benchmarks. They returned with thick reports: what was going well, where improvements could be made, and how health trends whispered warnings before disaster struck. Abattoirs, too, added their own cryptic signals through inspection data.

Yet, despite all this, the true treasure within the data remained locked away, like a map never unfolded. Farmers had pieces of the puzzle, advisors had another, the abattoirs a third—but no one held the whole picture.

That is, until the arrival of **Griskompassen**.

Griskompassen was more than software. To the farmers, it became their navigator, their compass through the stormy seas of production and health. Suddenly, the tangled knots of spreadsheets and annual reports transformed into a living, breathing dashboard of insight. With it, they could see their herd's story unfold in real time: how this year's litter sizes stacked against the national average, how early warning signs of health issues flickered before becoming costly problems, and how every decision—from feed to breeding—shifted their course.

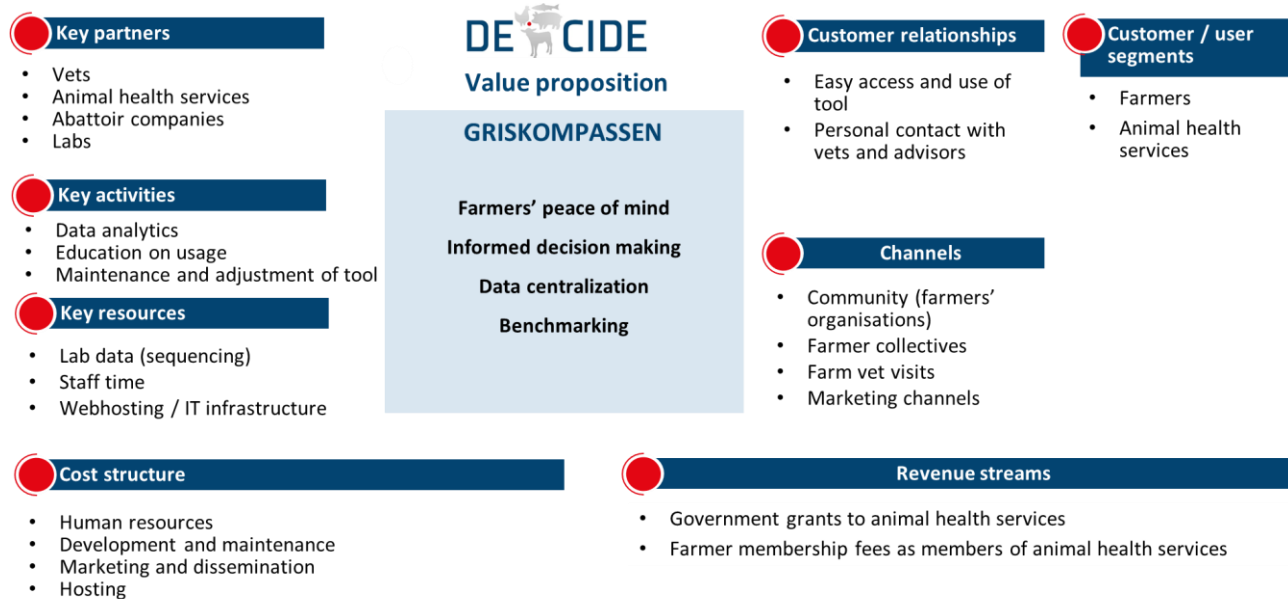
Word spread quickly. Farmers who once trudged through paperwork late into the night now stood in their kitchens with coffee mugs, scrolling through Griskompassen on tablets, charting the future of their farms. Advisors, too, found themselves equipped with sharper tools, able to guide their clients with precision instead of broad strokes.

One farmer, Karin of Västergötland, had long struggled with unexplained health problems in her herd. The annual reports had always noted "slightly above average losses," but nothing actionable. With Griskompassen, she spotted the pattern instantly—problems spiked every autumn, right after a new batch of feed was introduced. Acting early, she worked with her advisor to adjust storage and timing. That year, her herd thrived like never before.

The farmers began to see themselves not just as caretakers of animals, but as adventurers navigating an ever-shifting landscape of numbers, health, and production. Their herds became more resilient, their businesses stronger, and their lives—while still rooted in the soil and seasons—were now guided by the quiet power of Griskompassen.

And so, from scattered notes and hidden signals, a new era dawned on Swedish pig farming. An adventure not of swords and dragons, but of data and discovery—where the quest for healthier animals and sustainable livelihoods was charted on a compass of their own making.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

- Regular meetings with stakeholders (animal health org.)
- Tool evaluation with farmers
- Meeting end users at industry event

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

- Finishing evaluation
- Maintaining dialogue with stakeholders
- Milestone:** pinpoint the final value proposition
- Milestone:** Conclusion on long-term hosting and financing solution
- Milestone:** documentation of tool installation and usage (readme, specifications)

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

- The tool will be delivered to stakeholders to maintain and disseminate
- Involvement in further tool development as advisors
 - Potential inclusion of additional data sources
 - Piloting and sharing of results from early warning algorithms for outbreak prevention
- Discuss and facilitate expansion to other market regions

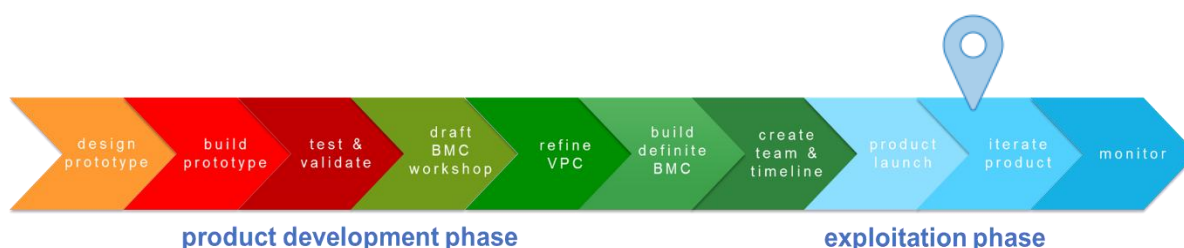
What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

- Involvement in further tool development as advisors
 - Evaluation of existing data sources
 - Potential inclusion of additional data sources

T3: Cattle barometer

Name of the tool	Cattle Barometer
Species the tool is developed for	Cattle and calves
Group in charge of the development of this tool	Ghent University
Person in lead of tool development	Stan Jourquin, Bart Pardon, Miel Hostens and Saba Noor
Person in lead of tool implementation	Stan Jourquin, Bart pardon and Miel Hostens

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE CATTLE BAROMETER

It began with a quiet change in the air.

In one province, a few herds showed signs of illness — nothing alarming at first. A week later, similar reports came from neighboring areas. The pattern was subtle, scattered, easy to miss. By the time farmers realized something was spreading, the outbreak had already crossed regions.

Moments like these inspired the creation of the Cattle Barometer — a tool designed to make such invisible movements visible.

The Cattle Barometer gathers laboratory results from across provinces and translates them into a living map of cattle health. It shows where specific pathogens are emerging, how they evolve over time, and where new risks may be rising. In doing so, it incentivises veterinarians and farmers to take samples, identify pathogens circulating in their herd and gives them the information to prioritize decisions for disease prevention and control.

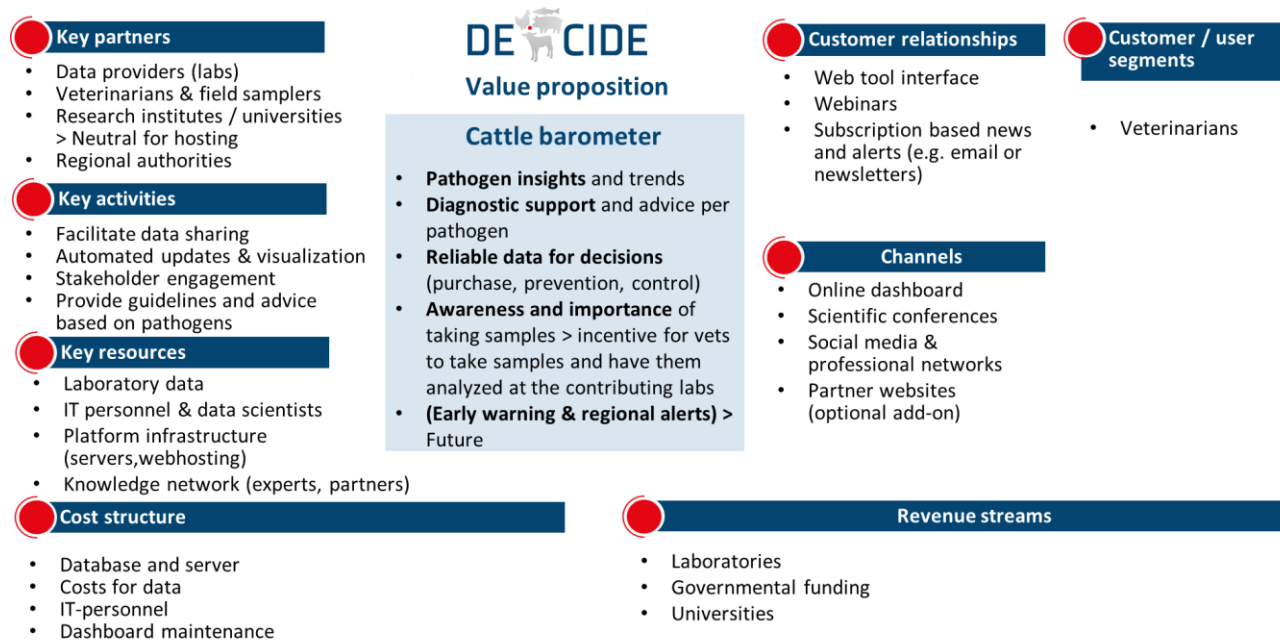
But its value reaches further. By visualizing pathogen trends and dynamics, the Barometer helps farmers anticipate local disease pressure, veterinarians refine their prevention and treatment strategies, and researchers uncover patterns that guide better policies and practices.

Every click reveals another layer of understanding: which pathogens are active, how frequently they appear, and what actions — vaccination, monitoring, or trade precautions — might be most effective.

The Cattle Barometer transforms fragmented data into shared awareness. It empowers everyone in the livestock chain to act with knowledge, not guesswork.

Because when diseases move quietly, the greatest defence is to see them coming.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

Stakeholder engagement: The Cattle Barometer was developed in close collaboration with laboratories, veterinarians, and research partners across Europe. These stakeholders provided feedback on usability, relevance, and data visualization needs. **Tool validation:** The tool has been tested with real laboratory data, ensuring correct interpretation and consistency of pathogen trends. **Visual outputs** have been reviewed by domain experts to validate accuracy and clarity. **Pilot testing:** Initial pilot implementations were carried out in selected regions to assess data flow, visualization performance, and user experience. Feedback was collected from pilot users and integrated into subsequent versions. **Communication and outreach:** The Cattle Barometer has been presented at project meetings, stakeholder workshops, and scientific conferences, raising awareness among potential end users. No conversations have started yet with potential hosting partners and data providers (e.g. national reference labs and research institutes) regarding the tool's long-term maintenance and integration into existing surveillance infrastructures.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

In the final year, efforts will focus on refining and consolidating the Cattle Barometer based on feedback from stakeholders and pilot users. Minor technical and visual improvements will be implemented to ensure a stable and user-friendly final version. After launching these iterations, the BMC will be re-evaluated and reshaped.

At the same time, discussions will take place within the University and partner network to explore options for continued hosting and maintenance after the project, ensuring that the Barometer remains accessible and up to date. The goal is to establish a sustainable long-term home for the tool, ideally within an institutional or academic framework. For funding, it is important to check the assumption that Government authorities would actually be willing to act as a key partner and/or funder. Also, the running costs should be determined.

Milestones for the final year:

- ✓ Check whether the assumed key partners are actually interested – before Christmas
- ✓ Finding a way to fund and maintain the current version of the barometer – Before Christmas
- ✓ Find personnel to actually maintain and update the tool – End of the project

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

In the medium term, the focus will be on embedding the Cattle Barometer into existing animal health networks and ensuring its continued use by laboratories, veterinarians, and researchers. Partnerships will be strengthened to maintain data flows and regular updates. The aim is to establish a sustainable operational model, supported through institutional funding or funding through key partners. The Barometer will also continue to be promoted through scientific publications and stakeholder engagement, reinforcing its role as a trusted reference for pathogen monitoring and decision support.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

In the long term, the ambition is to evolve the Cattle Barometer into a permanent, widely recognized platform for cattle health surveillance. Managed through academic or institutional partnerships, it could serve as a model for similar tools in other livestock sectors. Continued development may include predictive analytics and automated early warning features, supporting proactive disease prevention and policy planning. Ultimately, the Barometer aims to contribute to a sustainable, data-driven approach to animal health management across Europe.

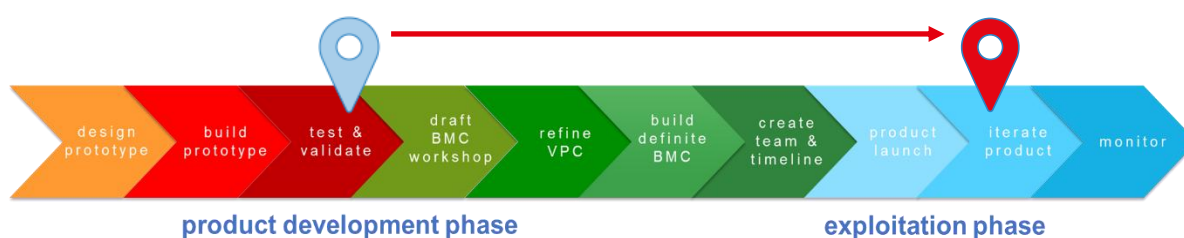
SWOT ANALYSIS

<i>Strengths</i>	<i>Weaknesses</i>
• Insights into different pathogens circulating and trends over time. • Differences between circulating pathogens per region or production type can help with setting up priorities.	• Dependent on data providers • Technical knowhow required from both lab personnel as people maintaining the Barometer itself. This requires a technical team to handle maintenance and issues ad hoc. • Data transfer agreements are a hassle • Funding?
<i>Opportunities</i>	<i>Threats</i>
• EU or worldwide inclusion of labs • Development of early warning and purchase assistant tools • Connection to other tools • 'Berichtenboek' for setup of the API can convince labs to contribute + technical assistance during the setup	• Changing privacy regulations • Local labs can make their own version based on their own data • Farmers can be hesitant contribute to these kind of datasets because it can also disrupt their business (e.g. not purchasing from their region due to pathogens circulating)

T4: Eval'BRD

Name of the tool:	Eval'BRD
Species the tool is developed for:	Young beef cattle
Group in charge of the development of this tool:	INRAE
Person in lead of tool development:	Sébastien Picault
Person in lead of tool implementation:	Guita Niang (leaving INRAE before the end of DECIDE), then Hugo Serville (arriving 1 st Nov.)

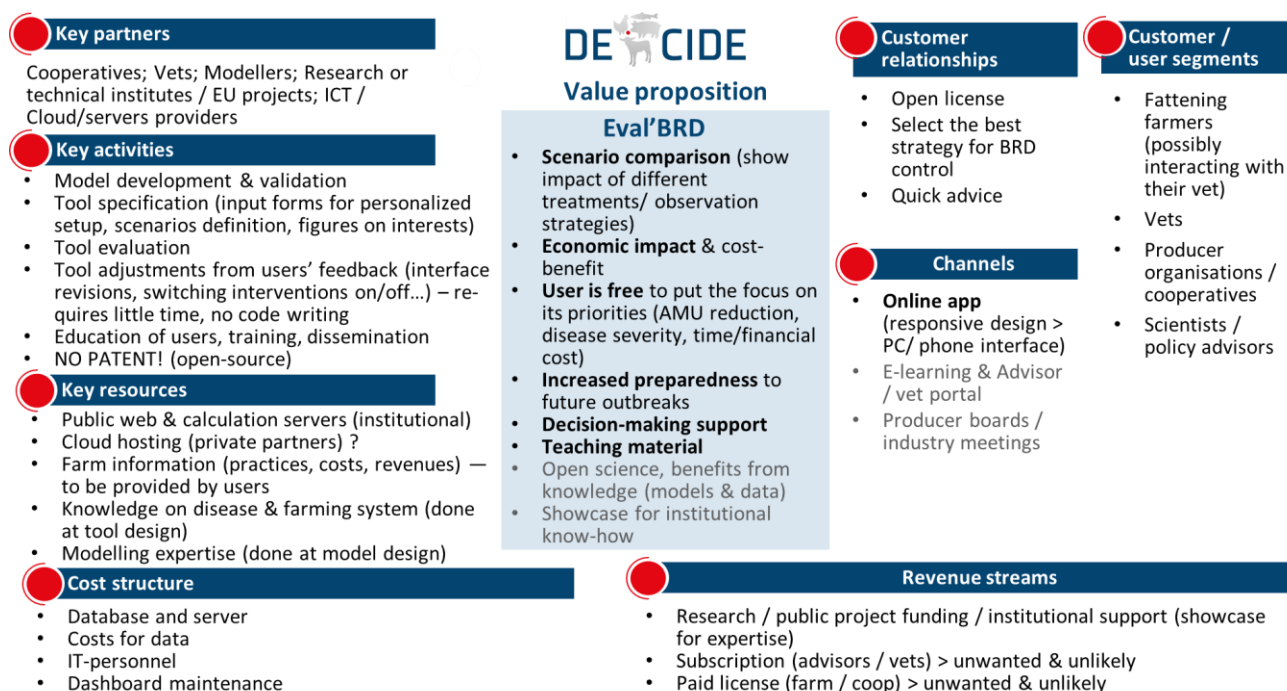
EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE EVAL'BRD TOOL

Farmer Ana is worried about a rise in coughing in her weaned cattle. Using Eval'BRD she uploads her farming practices and batch characteristics, and quickly compares intervention scenarios representing actionable actions in her farm (no action, temperature surveillance, targeted treatment, collective treatment, batch reconfiguration...). She also defines her own priorities for intervention ranking (costs, animal health & welfare, work time, antimicrobial use). The tool runs the model according to contrasted scenarios, shows predicted disease spread, economic costs and animal-welfare impacts, and recommends a targeted strategy. With the evidence, Ana contacts her vet, applies the intervention early and prevents a larger outbreak — saving treatment costs and reducing antimicrobial use.

THE BUSINESS MODEL



Remarks

- Willingness to pay depends on demonstrated cost savings (not easy in the fattening sector!) and ease of integration into advisor workflows (not to be done by us).
- Data availability and quality from farms is critical to calibrate models and scenarios properly.
- Advisors act as a key adoption multiplier — training and buy-in are required (no resources for that at INRAE)

EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

Eval'BRD is a proof of concept for a tool generator (PASTE software), in the sense that it is highly revisable/reconfigurable without further code development to address a broad diversity of diseases, farming systems, and intervention. Thus, Eval'BRD is a prototype tool designed in accordance with the farmers' needs (assessed by focus groups by Idele) and based on costs found in the literature.

- Prototype model and decision-support prototype created based on available data.
- Business model canvas and stakeholder map constructed (workshop results)
- Initial stakeholder consultations with vets, farmers and cooperatives (Idele)

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

- Focus on evaluation rather than broad market roll-out: perform targeted validation
- Refine inputs/outputs to improve alignment with users' expectations and present ranked scenarios and clear cost/benefit outputs for farmers and advisors
- Produce training materials and short e-learning modules for farmers/vets/advisors
- Public release of open source code

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

- Secure hosting on INRAE servers as a showcase & disseminate it through cooperatives for testing & feedback
- Reflection on integration as a software component into existing farm management applications/portals
- Incorporate additional sensor data (accelerometers, automated feeders, environmental sensors) where available to enhance the quality of scenarios (by reducing the number of assumptions)
- Implement connections with other tools when possible & relevant to enhance information/reduce uncertainty
- Enhance the underlying model to better account for other BRD pathogens and the variability of individual immunity

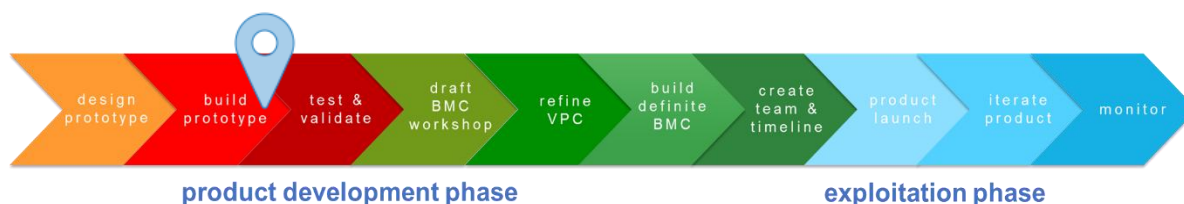
What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

It is likely that the tool, the regulations, the access to data, the technologies, etc. will have evolved substantially by that time... we hope that the low-code approach promoted by the PASTE workflow for automating tool design will have reached a broader adoption by then.

T5: Salmon Mortality Monitor

Name of the tool	Mortality Monitor
Species the tool is developed for	Salmon
Group in charge of the development of this tool	SRUC, NVI to lesser extent
Person in lead of tool development	Annette Boerlage
Person in lead of tool implementation	To be determined

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE SALMON MORTALITY MONITOR

Currents of the Heart

On the rugged coast of Norway, nestled between fjords where the mountains kissed the sea, there lived a quiet salmon farmer named Elias. He had inherited the family aquaculture farm from his grandfather, who taught him to respect the ocean as both a provider and a mystery. For years, Elias had risen before dawn, checked the nets, fed the fish, and logged data, watching over thousands of shimmering Atlantic salmon like a shepherd guarding his flock.

But lately, something wasn't right.

Mortality rates were rising. Some of his salmon were dying overnight—no wounds, no visible signs of disease, just lifeless forms floating at the surface. Elias couldn't bear it. He'd grown up with these fish. He understood them in a way most didn't. They were more than a business. They were his connection to the sea—and now, something was breaking that bond.

Desperate for answers, Elias turned to the new **Decision Support Tool (DST)** that Norway's Veterinary Institute had launched—AquaHeart. It claimed to provide a better understanding of the reasons for mortality to help farmers like him get a better grip on mortality. He was skeptical. Machines didn't understand the sea. But he had no choice.

That's how he met **Dr. Liv Mikkelsen**—data scientist who had co-developed AquaHeart. She arrived on the farm one rainy morning, boots caked in mud and eyes bright with curiosity. Where Elias saw heartbreak, she saw patterns. Where he saw loss, she saw signals.

Together, they fed data into the system: seal attacks, gill problems, pancreatic disease outbreak, even data on sea lice treatments.

The DST began to speak—in probabilities, warnings, and predictions:

- "95% likelihood of low gill disease near farm 3 in the next 24 hours."
- "Recent sea lice treatments with early stage jellyfish blooms—high risk of gill irritation."
- "Recent PD outbreaks on farms nearby could be linked to increased mortality—recommend reducing stressors."

Elias was astonished. The DST was uncovering patterns he couldn't see. And Liv—Liv was more than a scientist. She was passionate, fierce, and completely committed to saving the ocean.

As they spent long days and late nights monitoring the salmon and adjusting their care—relocating pens, optimizing feeding, deploying oxygen diffusers—Elias felt something awakening inside him. Not just hope. Not just purpose.

But love.

Liv was like the ocean itself: unpredictable, brilliant, full of depth. She didn't mock his old ways—she honored them. And he didn't fear her technology—he embraced it. Together, they were writing a new story for the farm... and for each other.

After months of collaboration, mortality dropped to near zero. The salmon were thriving. Other farmers began adopting the DST. Liv's research was published internationally. Elias, once just a humble fisherman, became a quiet hero in the fight for sustainable aquaculture.

One evening, standing on the pier as the sun sank below the waves, Elias turned to Liv.

"You saved my salmon," he said.

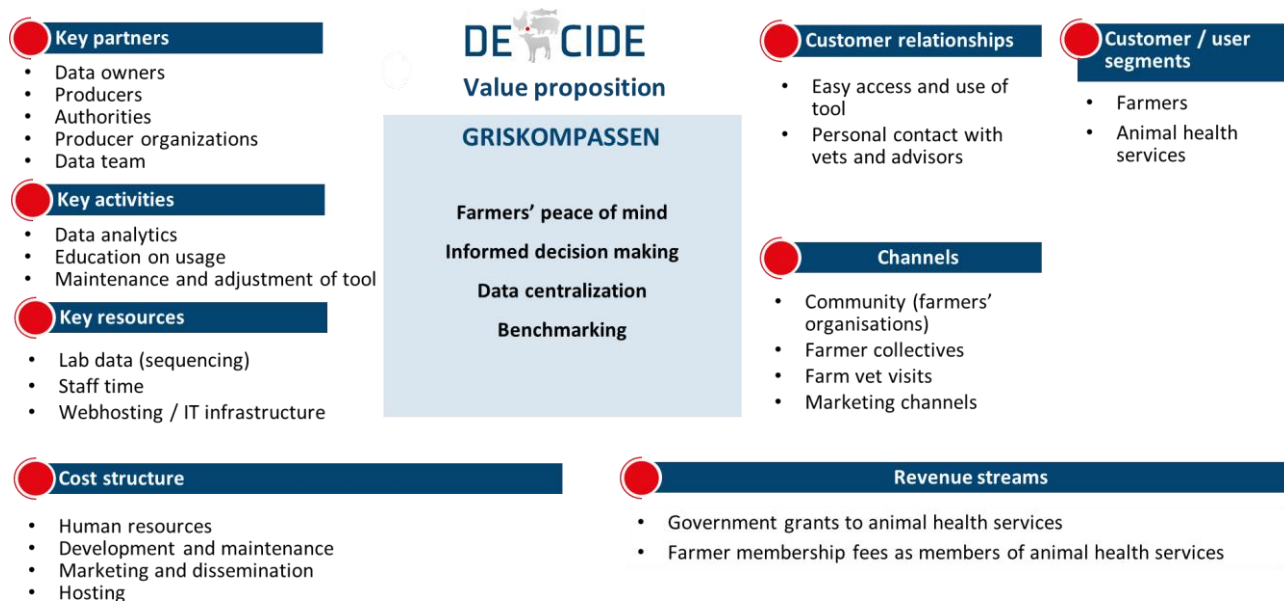
She smiled, brushing a windblown strand of hair behind her ear. "No," she whispered. "We saved each other."

Epilogue:

Their model was adopted globally, helping salmon farms in Chile, Scotland, and Canada. By reducing unnecessary antibiotic use, preventing mass mortality events, and protecting ecosystems, their work became a blueprint for balancing technology and tradition.

And in the quiet fjord where it all began, the current still carried the soft whisper of a love story that saved more than just fish—it saved a part of the world.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

During WP5 focus group interviews it was discussed that some producers are quite suspicious of mortality decision support tools because there is no reason for mortality indicated so they are misleading. Some of this data has been around but it has traditionally not been very good, and it's not been recorded for very long. Irish producers were interested in a tool like this, so we developed it with them in mind, but they decided not to go ahead with this. In Norway the NVI is interested in developing a tool like this as part of their digitalization of the fish health report, so our next step was to adapt the tool to fit the Norwegian data. We will also demonstrate that version of the tool to Scottish authorities and producer organizations.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

We will develop a version of the tool that we will share with potential up takers of the tool which will be NVI and Scottish authorities and producer organizations. It is likely we will not deliver the final version of the tool, especially not

its final product, because we are still optimizing the equations. We are aiming to progress optimizing the equations as part of the DECIDE project.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

If we have developed it and evaluated it successfully, we aim to install it within 4 years. We would like to add an early warning component to it using modeling and might already start developing that further within these four years after the project based on the work we've done on the project. Perhaps the tool can be made mandatory by certification bodies.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

This tool will be used as a platform to standardize mortality categories further. It will be run in Norway and in Scotland likely at slightly different formats. Once the end users are used to making use of this tool, other functionalities will be added as well, such as predictive functionalities and early warning, and perhaps there can be connections with other tools. We will try to adapt it for other species as well.

Milestones

- NVI evaluation to consider adapting the tool happened – end of November
- Key partners on board – end of project
- Launching customer/ contacts identified – end of project
- Tool presented at industry event – as soon as possible
- User manual, expertise manual and cost structure

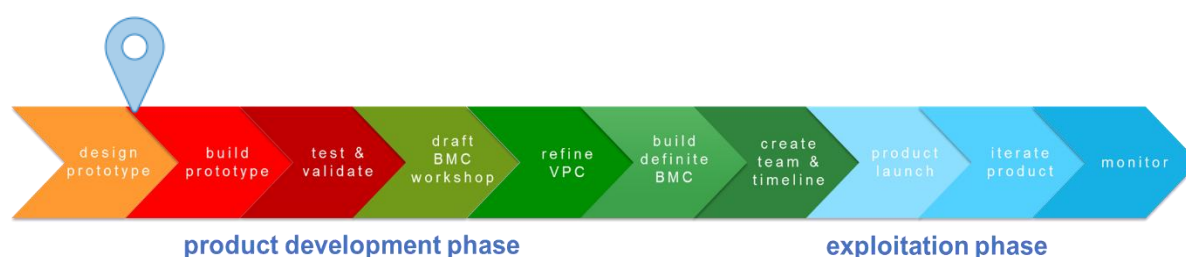
SWOT ANALYSIS

<i>Strengths</i>	<i>Weaknesses</i>
• Increase of spatial awareness • Better communication between producers and producers to authorities • We can see some evidence about spatial awareness	• Dependence on mandatory mortality data, this can change or format can change • Usage may be quite dependent on promotion
<i>Opportunities</i>	<i>Threats</i>
• Develop tool for weekly data, after use of monthly data the customers may see the need of this ~ 5 years from now. • Can it be used by certification bodies as evidence, additional customer. • Include early warning component or other expansions • Connecting it with other tools • Adapt to other species and other problems	• No value perceived by users

T6: Pig health dashboard

Name of the tool	Pig herd health dashboard
Species the tool is developed for	Pigs
Group in charge of the development of this tool	Royal GD
Person in lead of tool development	Lucía Dieste Pérez & Tijs Tobias
Person in lead of tool implementation	The tool will not reach the implementation phase during the project

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE PIG HEALTH DASHBOARD

For years, farmer Jan had relied on his eyes, ears, and gut feeling to keep his pigs healthy. He enjoyed sharing these feelings with the veterinarian, Dr. Linda. Linda found sometimes challenging to discuss with Jan certain results and advices, especially when they didn't fit with his feeling. For that purpose, she spent hours in the evenings downloading documents from different sites and using different logging accounts and making summaries and graphs easy to understand for Jan, so they could hopefully agree on which measures should be implemented to have healthier pigs.

But lately, things had changed. A new tool is now available — a glowing window of knowledge that collected diagnostic test results, antibiotic usage data, and management information from every corner of the farm, among others.

At first, Jan wasn't sure what to make of it. But when Linda arrived for her routine farm visit, she smiled knowingly. "Good morning!", she said, tapping her tablet. "Today, we travel through data before we step into the stables." On her screen, colorful charts came alive — each representing a part of the pig herd's story. Diagnostic tests showed which were the health challenges in the last month, and why it was different compared to last cold winter. Antibiotic usage graphs revealed when treatments had been higher than normal, and why during the last visit they decided to adjust the ventilation in the compartment. Slaughterhouse data showed the effects on the last batch of pigs sold. With just a few clicks, Linda surfed through the entire herd's health situation quickly and accurately together with Jan, and planed together the visit of that day with clear objectives and attention points.

When she and Jan finally did their walk-through the stables, every observation connected back to the dashboard. A pen of pigs recovering from a cough? The dashboard had already tracked the effect of the treatment seen as a reduction in the percentage of PCR positive samples and antibiotic usage.

"So if we provide a proper environmental conditions, we can actually reduce the antibiotic usage in the weaned piglets compartment, do you see it in this graph?" she asked. "We can evaluate the impact of every intervention — faster, clearer, and with evidence. No more guessing, just understanding." The two of them

leaned over the tablet, discussing improvements and planning next steps. It was no longer just a vet visit — it was a shared mission.

Jan pointed out some pens with diarrhea problems, and together they immediately agreed to collect some fecal samples and to increase attention to piglet colostrum intake in the first days after farrowing in the next period. “I am very curious to see whether this has an effect that we can see next month on the dashboard”, said Jan.

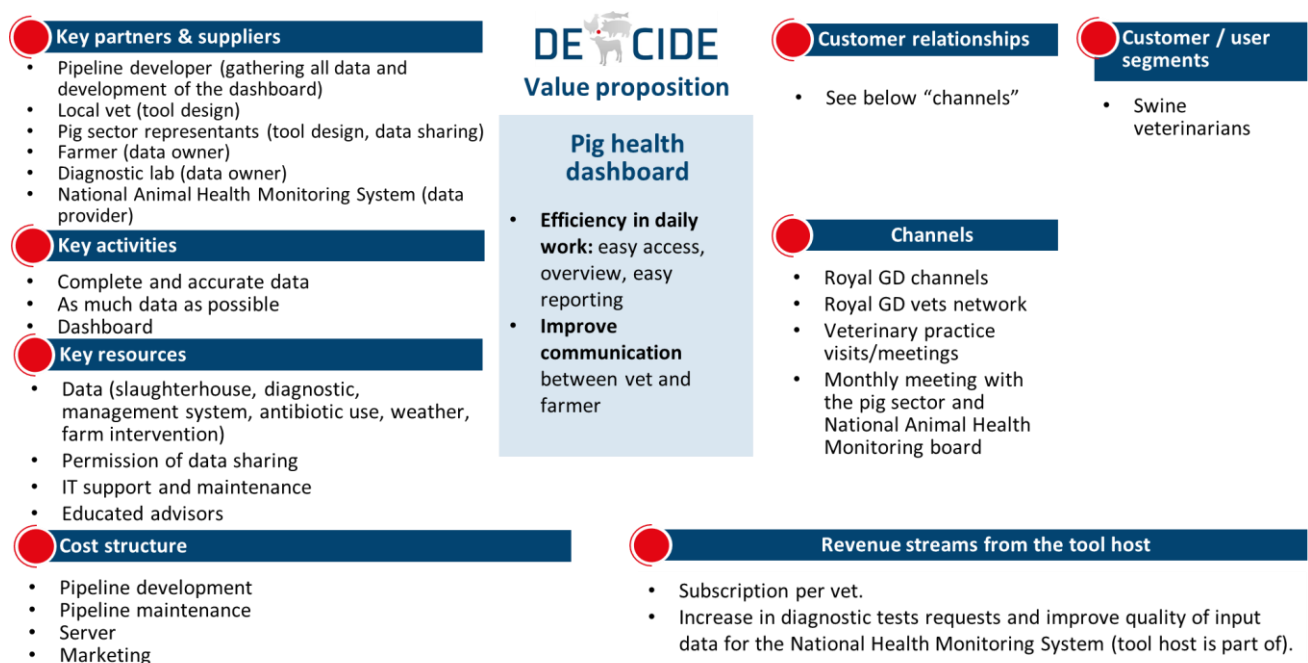
Weeks later, the results spoke for themselves. The pigs were healthier, the treatments more precise, and the antibiotics used more responsibly. What once felt like endless spreadsheets and guesswork had transformed into a story — one told by data, care, and collaboration.

Linda uses the dashboard to discuss with her colleagues the effect of certain interventions or challenges difficult to solve too. She uses the dashboard to benchmark Jan’s farm results with results from other farms she is managing. “It is very nice to see whether antibiotic usage on Jan’s farm is compare to other farms in the same region, and whether it also occurred on previous cold winters”.

And so, for Linda and Jan, the Pig Herd Health Dashboard became more than a tool. It became a compass — guiding the farmer and veterinarian together on an adventure toward better health, smarter farming, and a brighter future for the herd.

THE BUSINESS MODEL

The final user/customer are veterinarians. They are willing to pay for the tool if it provides what it is believed. However, providing a first version prototype might help to get them motivated and engaged. The key suppliers are the farmers, the diagnostic lab (tool host) and National Animal Health Monitoring System, since they are the data owners/providers. Key partners are the pipeline developer gathering all data and developing the dashboard, the local vet as well as the pig sector both involved in the design of the tool. All key partners need to see also their interest and benefit to be willing to participate. Farmer will at the end benefit from better pig herd health and management. Having all the information easy access in a single site will also facilitate reporting data for other purposes (i.e. subsidies). The host organization and the National Animal Health system will benefit from access to (anonymous) global pig herd health data as well as to get more accurate data that will contribute to the national animal health monitoring system. In addition, the host organization will hopefully benefit from an increase in diagnostic test requests. Since the quality of the tool output depends on the input provided by users, this might motivate users to provide more and more accurate input.



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

During the two first focus group discussion sessions, swine veterinarians' views of data utilisation and technologies application for pig health and welfare management were collected and analysed. Input collected from Dutch swine veterinarians revealed that in the Netherlands there is a lack of adequate tools for swine veterinarians to collect information and to compile data from different sources to properly interpret this information. Therefore, Dutch swine veterinarians are facing a challenge when trying to use available data to take decisions and give advice to their farmers to improve swine health and performance. This poses a challenge to veterinarians, who must invest too much time to put all these data together, if they do it at all. A tool where all these data could be visualized together would help veterinarians to efficiently analyse and use these data for making decisions. A first prototype of a pig health herd dashboard was designed based on this input, and its usefulness was evaluated in a second round of focus group discussions with Dutch vets by showing two case-prototypes.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

The goal for the last year of the DECIDE project will be to go on with the evaluation of the tool, Milestone (M)1: to expand it to other countries to gather as much input as possible to reach a prototype design that meets the needs and preferences of the stakeholders. M2: The key suppliers and partners will be also involved in the evaluation process to ensure their participation once the tool is ready for development. M3: In addition, we will explore possibilities and challenges of data sharing and to assess the feasibility of developing and implementing a pig health herd dashboard for swine veterinarians in the Netherlands and prioritize data sources based on data accessibility (which data is already in, which data is easy to bring in, which data will be more challenging). The possibility of a not-yet-ideal tool will be also explore as part of the development and user-engagement process.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

At the mid-term we will focus our efforts to identify challenges of the prototype development and implementation and to try to find solutions for that. First steps for the development of the prototype will be taken. Communication with stakeholders and key suppliers and partners will continue to ensure all the efforts are in line with their needs. A cost structure will be performed.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

Hopefully the prototype will be implemented.

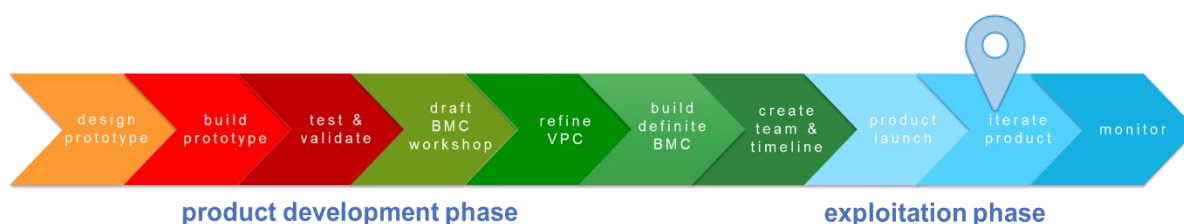
SWOT ANALYSIS

Strengths	Weaknesses
- Meets the needs of the users, - Host institution identify, - The tool makes "information" our of data (is that true for this one?	- Dependent on data providers - Dependent on input from users - Evaluation based on end user, and not on key suppliers and key partners
Opportunities	Threats
- There is no other tool in the market like this - It can be merge with other existing tools - Dependent on input from users	- Only successful if perfect - Data sharing - Can the host institution access the data anonymously?, changing data privacy regulation in the future

T7: Laksetap

Name of the tool	Laksetap
Species the tool is developed for	Salmon and rainbow trout
Group in charge of the development of this tool	Norwegian veterinary institute NVI
Person in lead of tool development	Victor Oliveira
Person in lead of tool implementation	Nakov Novica/ Victor Oliveira

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND LAKSETAP

In the quiet fjords of Norway, where aquaculture has become part of the rhythm of life, something was missing. Every year, thousands of farmed salmon disappeared—lost to disease, stress, or unknown causes. Farmers saw the numbers, regulators asked questions, and researchers searched for patterns. But the truth was scattered, hidden in spreadsheets, reports, and gut feelings.

Then came Laksetap.

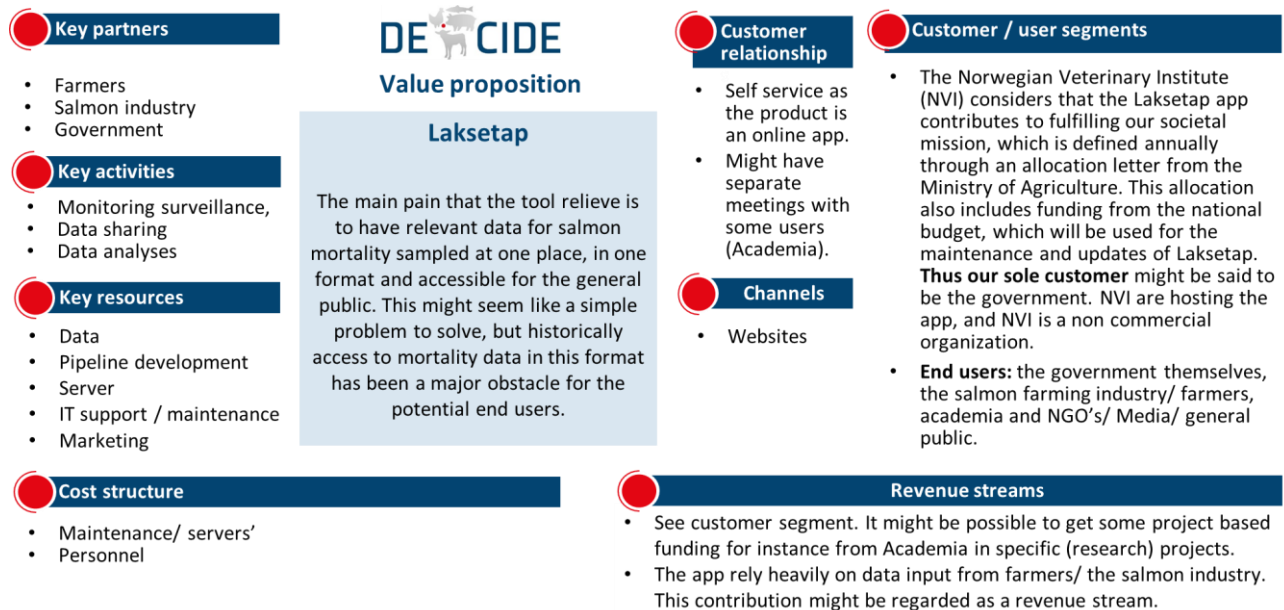
It wasn't just another app. It was a shared language—between farmers, scientists, and policymakers. A way to see what was happening beneath the surface, not just in one farm, but across the entire coastline.

With Laksetap, farmers could track losses in real time, compare with others, and understand what was normal—and what wasn't. Regulators gained a clearer picture of the industry's health, helping them make better decisions. And researchers finally had access to consistent, structured data that could unlock new insights into fish welfare and sustainability.

The tool didn't solve every problem. But it started conversations. It built trust. It helped people ask better questions—and sometimes, find better answers.

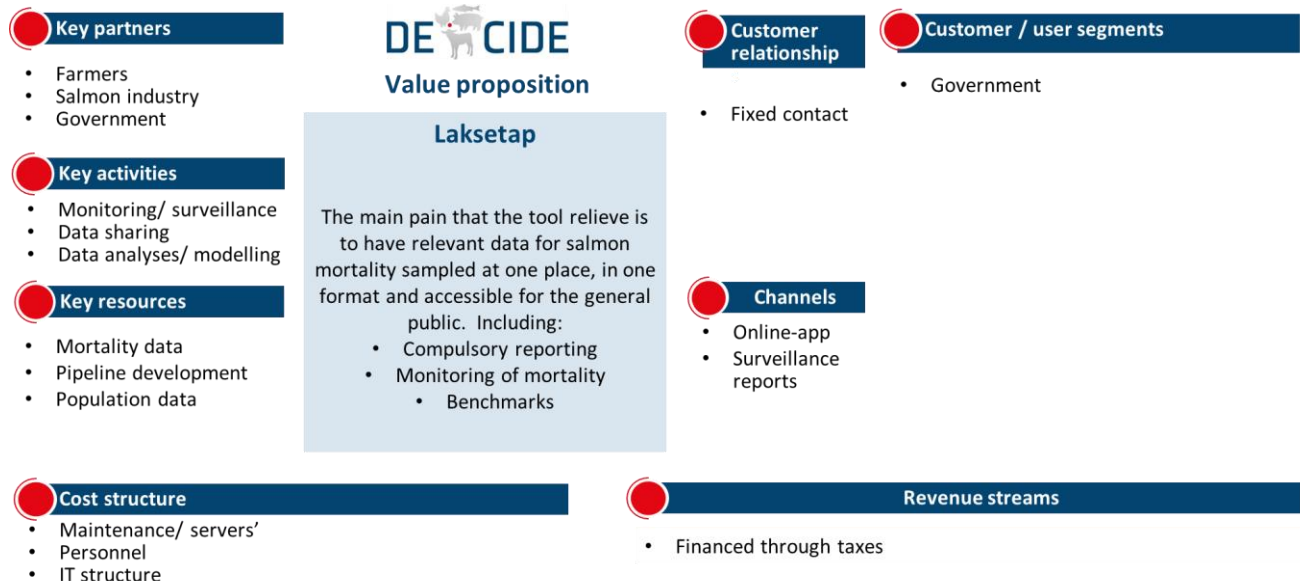
In a world where every fish counts, Laksetap became more than a tool. It became a compass, guiding the industry toward transparency, resilience, and care.

THE BUSINESS MODEL

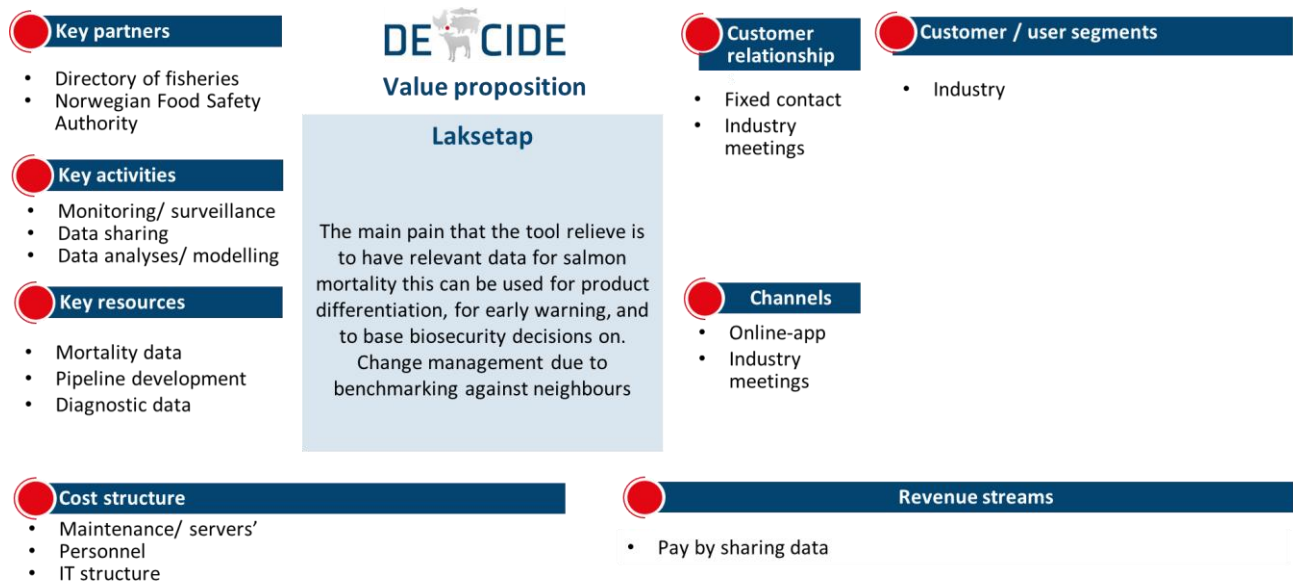


Below further Business Model Canvas / customer and end-user segments:

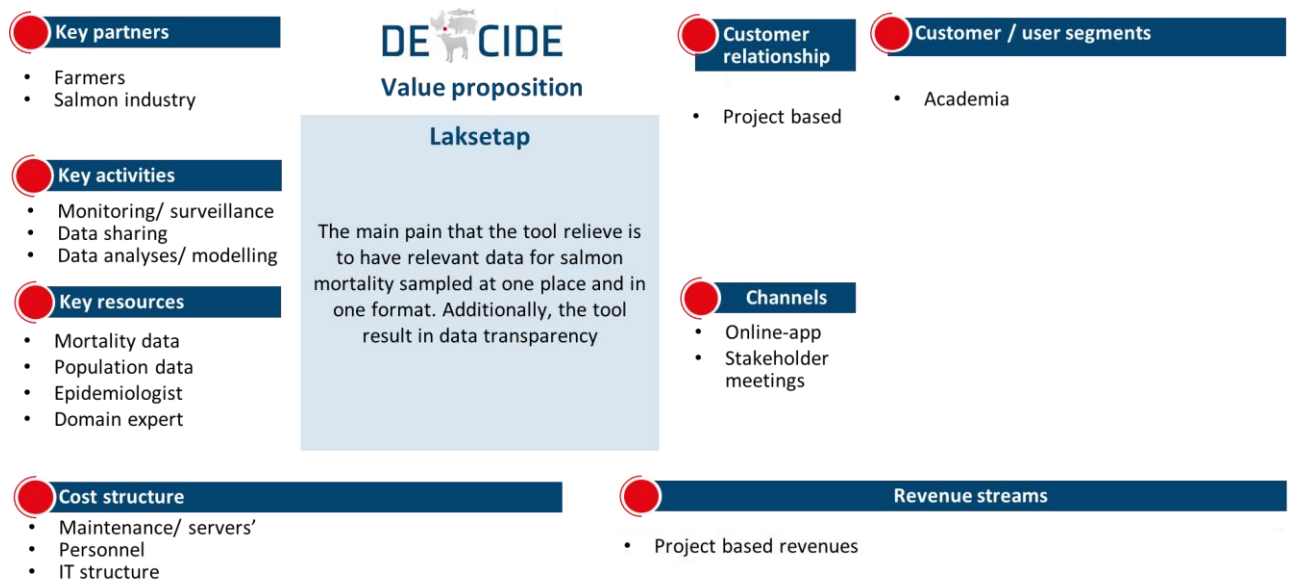
BMC for Government (main customer):



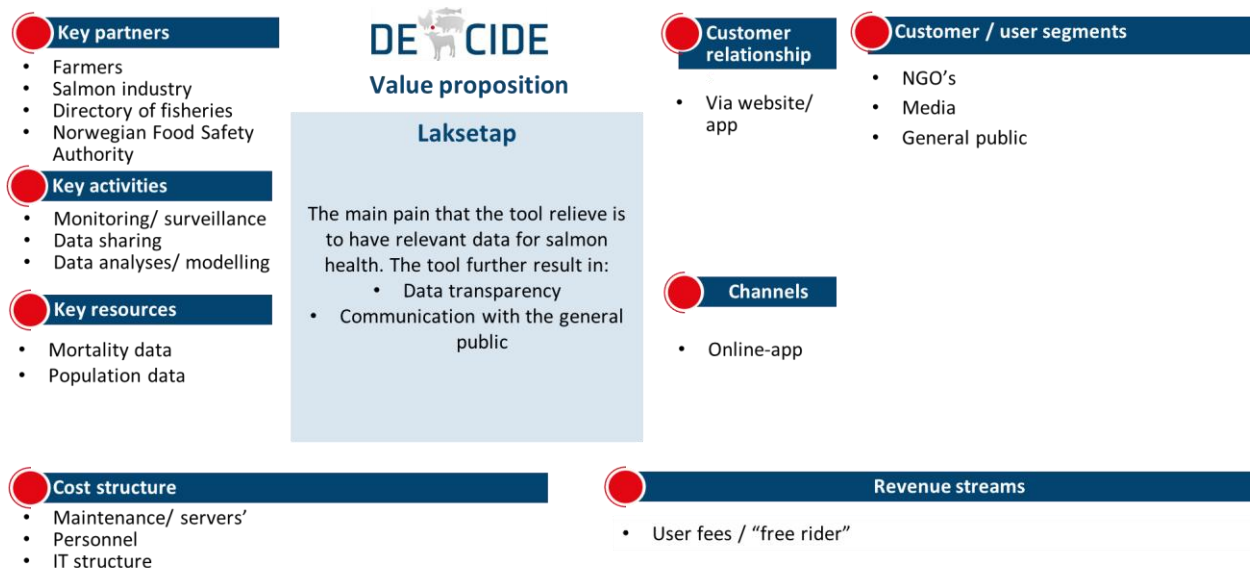
BMC for Industry (end user):



BMC for Academia (end user):



BMC for NGO-s/ Media/ General public (end users):



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

- A public version is available at <https://apps.vetinst.no/laksetap/>
- The version was updated in August 2025 based on feedback from end users during the DECIDE project.
 - Contacted stakeholders.
 - Evaluation via. A task solving test by end users, questionnaire's and group discussions.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

- A version that consolidates the feedback we have collected and analysed from the end users during the DECIDE project.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

- A re-evaluation step, involving end users.
- Evaluate statistics for how the app is used.

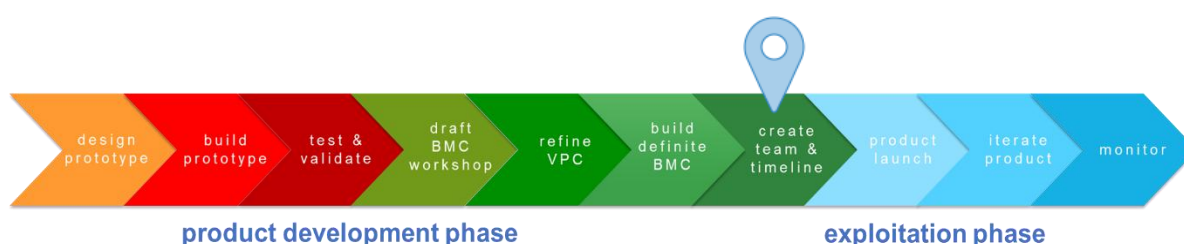
What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

- Industry will be very open to share higher resolution mortality data, including causes of mortality, which we will be able to integrate into Laksetap.
- Laksetap will have an early warning system that is based on validated models.

T8: AbattoirInspect

Name of the tool	AbattoirInspect
Species the tool is developed for	Pigs
Group in charge of the development of this tool	SRUC
Person in lead of tool development	Maria Costa, Suhaib Ahmed, and Sandy Carmichael
Person in lead of tool implementation	Maria Costa

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND ABATTOIRINSPECT

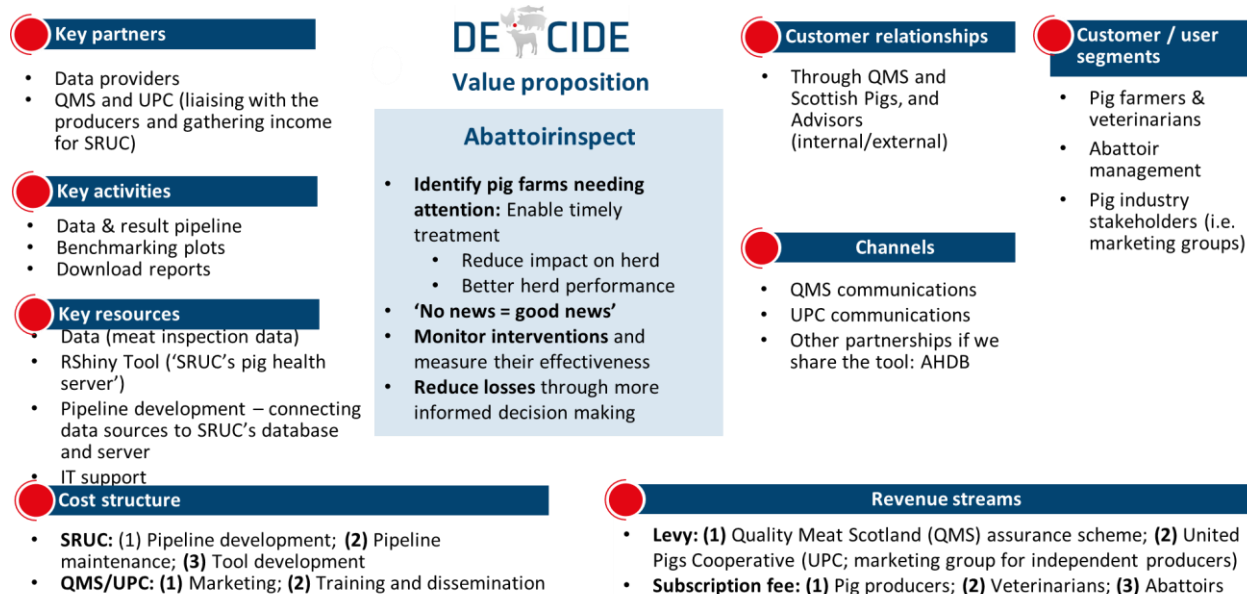
Every day, thousands of animals pass through abattoirs — the point where livestock from across the country meet. Alongside their movement flows a constant stream of information: inspection notes, condemnation records, and health observations. This data, captured as part of routine meat inspection, reflects the health and welfare of animals across farms, regions, and seasons.

Yet, despite its richness, much of this data has remained underused — stored in spreadsheets, isolated systems, or reports that rarely make it back to those who could act on it, the farmers and veterinarians responsible for the health and welfare of livestock. The potential is enormous: abattoir data could help identify emerging health issues, improve herd management, enhance food safety, and even detect early signals of (zoonotic) disease.

That's where Abattoir Inspect comes in. Developed by Scotland's Rural College (SRUC) under the DECIDE project, the web-based application transforms routine abattoir data into clear, interactive insights. It allows users to visualise and analyse condemnation patterns, benchmark farms or regions against national trends, and track changes over time.

For advanced and specialist users, the app automatically detects anomalies and highlights unusual trends, supporting faster, evidence-based decisions powered by a triple-algorithm alert system — Holt-Winters, CUSUM, and EWMA. With flexible statistical tools, adjustable timeframes, and downloadable reports, Abattoir Inspect empowers users at every level — from farmers and veterinarians to processors and policymakers.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

We have conducted a pilot evaluation with a representative from Food Standards Scotland (FSS), who acknowledged the value of the tool and recognised its potential usefulness for FSS activities. In addition, evaluations were carried out with four industry stakeholders, including two pig veterinary surgeons, one pig specialist from a quality assurance scheme (QMS), and a marketing and innovation specialist from a UK-wide pig marketing cooperative.

The tool has been showcased during a DECIDE webinar and presented as an oral communication at the ISVEE conference held in Sydney, Australia, in 2024. We have also engaged in multiple discussions with veterinarians, industry representatives, and national authorities, all of whom have recognised the tool's benefits and potential applications.

Furthermore, one of the DECIDE partners (I4Agri) is currently conducting complementary evaluations of the tool with cattle veterinarians, further supporting cross-sector validation and exploitation efforts.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

In the final year of the DECIDE project, we plan to use the feedback gathered from the evaluations to refine and enhance the tool. We will also develop the final Standard Operating Procedures (SOPs) to accompany the tool's launch and provide training for users as they access it for the first time.

Ongoing discussions are taking place regarding data acquisition, hosting, and long-term exploitation. SRUC is well positioned to host and maintain the tool, as this aligns with our existing data management infrastructure and related services. We are going to implement a data pipeline and define clear access and governance arrangements.

Additionally, we are introducing a user profile feature to support secure and tailored access: farmers will be able to view data relating only to their own farms, while veterinarians will have access to the farms for which they have been granted authorisation by the respective farmers.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

In the mid-term (up to four years after the project), our focus will be on securing data access agreements (DSAs) and establishing data pipelines to enable near real-time data feeding into the tool. These discussions are closely linked to decisions regarding long-term hosting and maintenance arrangements.

Our goal is for the tool to be routinely used by the pig sector as part of ongoing surveillance and management activities. In parallel, we plan to explore opportunities for adapting and extending the tool to other livestock species in the coming years.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

In the long term (between 4 and 10 years after the project), the tool has the potential to be adapted for use with other livestock species and in other countries. We plan to leverage and offer our expertise to support the adaptation of the tool to different contexts and sectors.

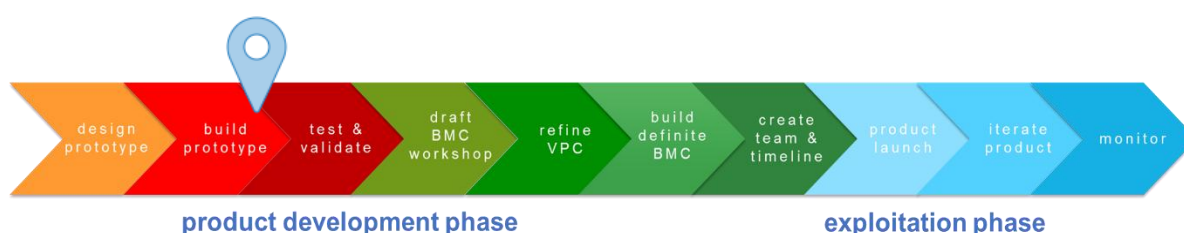
We believe the tool holds significant potential to standardise the way meat inspection results are visualised and interpreted. If adopted by multiple countries, it could facilitate the comparison of inspection outcomes and underlying ontologies, thereby contributing to the development of harmonised guidelines across Europe.

Moreover, variations in meat inspection results often reflect differences in production systems and the specific characteristics of each national livestock sector. The tool therefore offers a unique opportunity for benchmarking and comparative analysis tailored to these diverse realities.

T9: Calf Health Support tool

Name of the tool	Calf Health Support tool
Species the tool is developed for	Dairy calves
Group in charge of the development of this tool	Lely, Royal GD and University of Copenhagen
Person in lead of tool development	Anouk Veldhuis & Elisa Vrieze
Person in lead of tool implementation	Would be Elisa Vrieze, but development is ceased during DECIDE

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



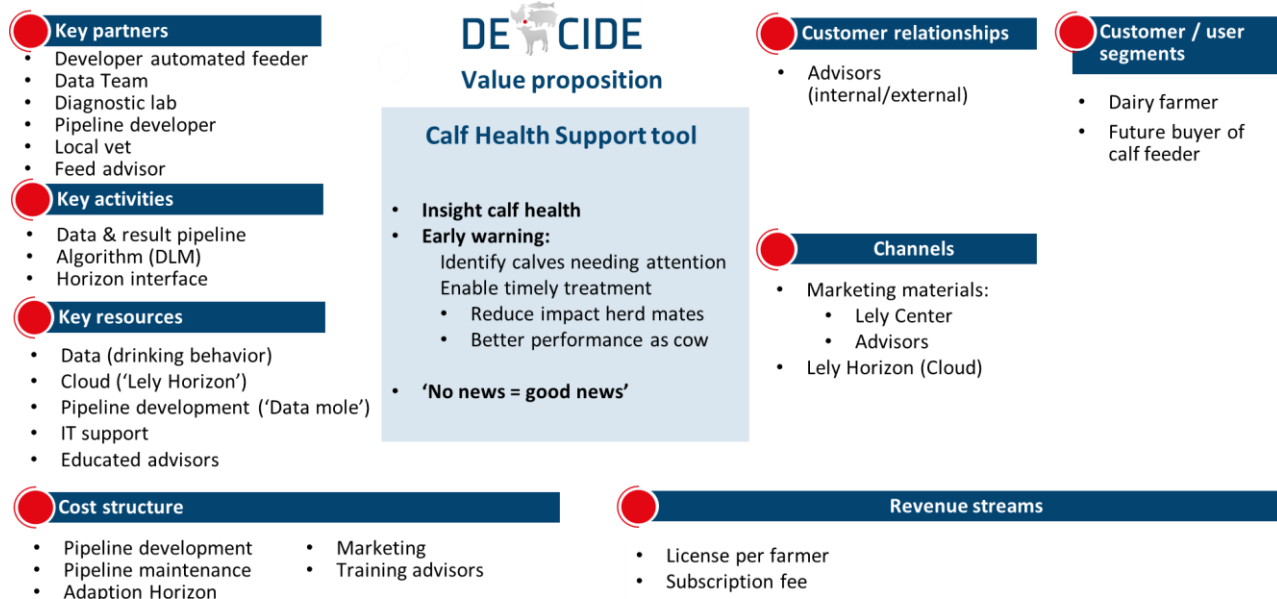
STORY BEHIND THE CALF HEALTH SUPPORT TOOL

In the heart of the picturesque countryside, lay a thriving dairy farm. The farm's owner, Farmer Tom, had dedicated his life to caring for his animals, ensuring each one thrived. As technology advanced, so did his methods of care.

Farmer Tom bought an automatic milk feeder designed to revolutionize calf care. This high-tech feeder not only dispensed milk but also meticulously recorded data about each calf's consumption habits—the amount of milk consumed, the speed at which it was drunk, and the frequency and time of each visit. Eager to improve his calves' health, Farmer Tom installed the feeder in the stable. The calves, curious and playful, quickly adapted to their new, shiny milk dispenser. They eagerly sucked the milk from the feeder, which provided them with their daily nourishment while silently collecting valuable data. Days turned into weeks, and the feeder's data collection grew vast. It recorded the milk consumption patterns, noting each calf's drinking speed and frequency. Farmer Tom could now identify which calves were healthy and thriving, and those who might be underperforming.

One crisp autumn afternoon, the feeder detected an anomaly in the drinking pattern of a calf named Daisy. Daisy, usually a voracious drinker, had visited the feeder less frequently and consumed less milk than usual. The feeder's intelligent system flagged this deviation and immediately alerted Farmer Tom. Concerned, Farmer Tom hurried to the pen Daisy's was housed in. He observed her closely, noticing she seemed lethargic and uninterested in her surroundings. Realizing something was amiss, he promptly contacted the veterinarian. Dr. Sarah, the farm's trusted veterinarian, examined Daisy and confirmed that she was showing early signs of illness. Samples were taken and immediately sent for diagnostic evaluation. The next day the results came back showing that the already implemented treatment was the correct one. Thanks to the feeder's timely alert, Daisy was diagnosed and treated before her condition worsened. The spread of disease to her pen mates was prevented, and Daisy herself was cured before she became seriously ill.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

During the initial phase of developing the tool, the potential value of the anticipated end product was discussed during a focus group meeting with farmers (part of WP5). The farmers' need for such a supportive tool varied depending on their type of calf management and their acceptance of technology. Since the tool in its current form does not yet deliver results of sufficient quality for implementation (the combination of sensitivity and specificity is not yet high enough), further pilot testing and discussions with potential clients have been postponed and will not take place during the lifetime of the DECIDE project.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

Within DECIDE, development of the calf health support tool was paused because other tools showed more promising results and required focus. However, recognizing the potential of this tool, the focus in the final year of DECIDE will, instead of exploitation, be on evaluation of the tool in its current form. We will assess what is needed for further optimization and development. Specifically, we will address the challenges encountered during development and determine the best path forward.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

First, we will focus on further development. The tool requires more data (collected from both healthy and sick calves) to optimize the models that generate the signals. Additionally, data on accelerometers will be collected and used simultaneously to further enhance the tool. Once improved, the tool will be tested by Lely's international test panel, which includes approximately 40 farmers from different countries, representing a wide range of calf health management practices. These farmers will receive the tool for free, test it for a period of time, and provide feedback. This process will facilitate further optimization and offer insights into the tool's added value across diverse management systems in real-life settings.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

The completed tool will be implemented globally, utilizing Lely's international centers for distribution and support. The target for the first year of implementation is to reach 50 farms. Given that each Calm calf feeder feeds an average of 50 calves over a duration of 70 days, it is estimated that the system will collect data from approximately thirteen thousand calves in this first year. This data will be used to:

- Provide input for the further development of an accompanying dashboard, showcasing historical data and time trends
- Conduct a cost-benefit evaluation to facilitate the upscaling of sales for the calf health support tool
- Apply AI and machine learning to develop herd-specific baselines for healthy calves, thereby enhancing the quality of signals and the early warning component of this system.

We believe that the added value of this tool will increase exponentially over time as its benefits become more evident. When functioning as intended, the tool will provide early warnings when problems arise. By acted on tool's signals, farmers will be able to recognize the early onset of issues, respond promptly, and treat accordingly, preventing more severe illnesses and the transmission of pathogens to pen mates. This will result in healthier calves, lower treatment costs, and reduced antimicrobial usage. Healthier calves will, in turn, lead to high-producing livestock with fewer issues. Ultimately, the tool aims to provide information that aids in the early selection of calves expected to thrive, ensuring they are kept for replacement.

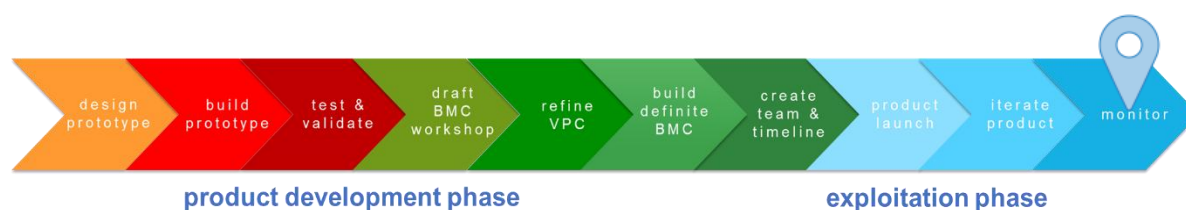
Long term further development includes:

- Adding more partners with additional sensor systems to improve signals and increase value for farmers
- Integrating genetic information in the tool

T10: Pig HealthCheck

Name of the tool	Pig HealthCheck dashboards
Species the tool is developed for	Pigs
Group in charge of the development of this tool	Animal Health Ireland
Person in lead of tool development	Carla Gomes
Person in lead of tool implementation	Carla Gomes

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND PIG HEALTH DASHBOARDS

Behind the Barn Door: The Data Revolution

In the pig-farming nation of Porcitanía, herd health was faltering. Illnesses were rising, antibiotic use was unchecked, and farmers lacked the tools to respond.

Then came Pig HealthCheck dashboards — a national web platform providing every farm with clear, actionable data on biosecurity, animal welfare, post-mortem results, antimicrobial use, and Salmonella levels. It highlighted weak points, tracked treatment outcomes, and issued real-time alerts when things went wrong.

Farmer Amara was one of the first to use it. Pig HealthCheck dashboards revealed high antimicrobial use and poor piglet outcomes on her farm. Guided by the data, she upgraded her biosecurity, adjusted vaccination strategies, and improved animal handling.

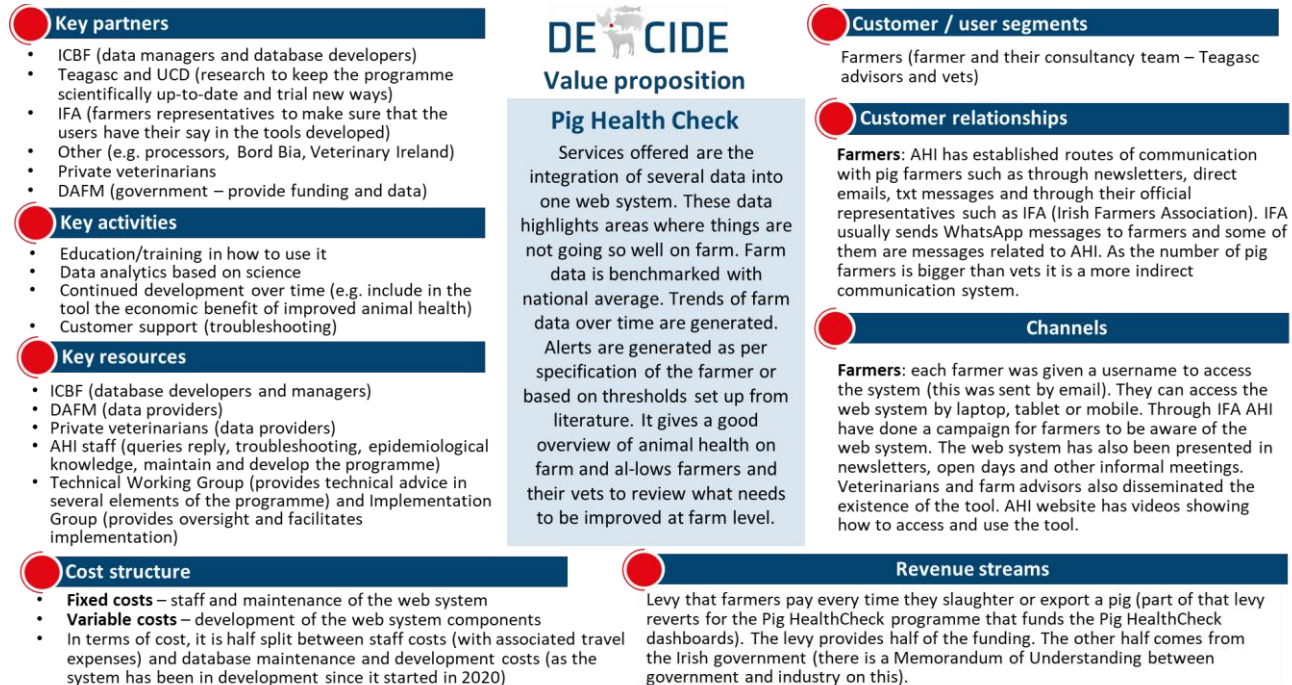
The results were fast and measurable: stronger pigs, fewer treatments, and better welfare scores. Across the country, more farmers followed suit — comparing benchmarks, learning from success stories, and making smarter, faster decisions.

With Pig HealthCheck dashboards, pig health didn't just stabilize — it steadily improved. Farmers were no longer reacting blindly; they were managing with precision.

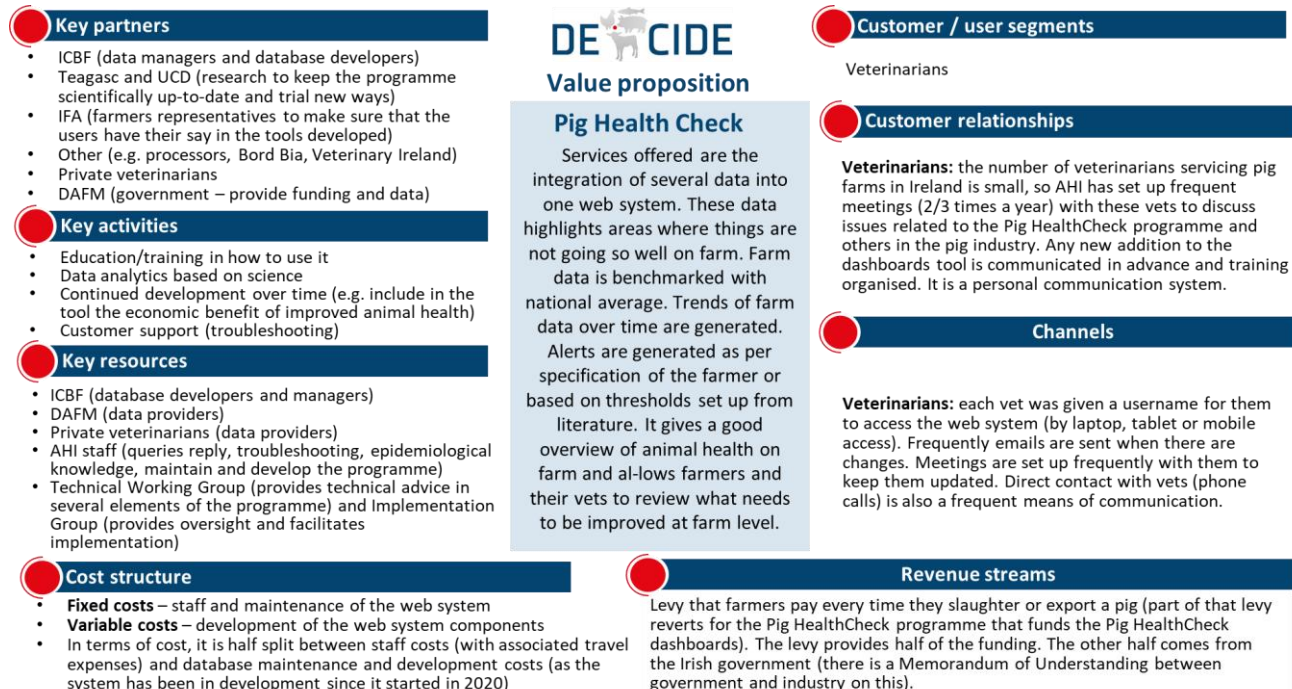
Pig HealthCheck dashboards became more than a system. It became the heartbeat of better farming in Porcitanía.

THE BUSINESS MODEL

Farmers as customers:



Veterinarians as customers:



Other potential customers but for which the dashboards have not yet been adapted and potential activities of interest for those stakeholders:

- National authorities (DAFM): national trends over time, identifying “problematic” herds (e.g. high antimicrobial users, high degree of overstocking at farm level)
- Slaughterhouse companies (processors): benchmarking their suppliers against other companies’ suppliers

- Bord Bia (The Irish Food Board – runs a quality assurance scheme and promotes Irish food internationally): national trends over time, national figures for marketing purposes

EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

Think about the stakeholder engagements, the validation of the tools, the pilot testing of the tools, the talks with potential end users, etc.

The tool is already being used and during the last years new components have been added to the dashboards. For the last dashboard we have done workshops with users (farmers) to co-develop the dashboards.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

More workshops will be done with users to redesigning the existing dashboards to make them more appealing, user-friendly and useful. This will be an iterative process. We will then use the current channels of communication to market the re-designed dashboards through an awareness campaign for farmers. Educational tools for farmers ('How to' guides) on how to use the dashboards will be promoted alongside this. Meanwhile we will work on the system itself to ensure the tools are quick to load.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

Carry on developing and adapting the tool to the needs of the users/industry through consultation and workshops as required (e.g. with Teagasc advisors, slaughterhouse companies, DAFM, etc.). When identified by the end-user, additional functionality could be added e.g. financial benefits/losses, improved analysis across data sources. Linking the data with existing systems that collect production data will also be explored. Possible alternatives to online summary reports explored. Increase engagement of the users with the dashboards through marketing campaigns and in person meetings with the farming community, using existing partnerships with key partners (e.g. Teagasc, IFA, MII, DAFM). To increase the usability and usefulness of the tool organize regular webinars to discuss with the farmers how to use the tool in their day-to-day life. Currently only half of the pig farmers have accessed the web system at least once and they do not frequently access it (we measure traffic into the web system). In 4 years' time we hope that around 90% of the commercial pig farmers have accessed the system at least once and around 50% are using it monthly.

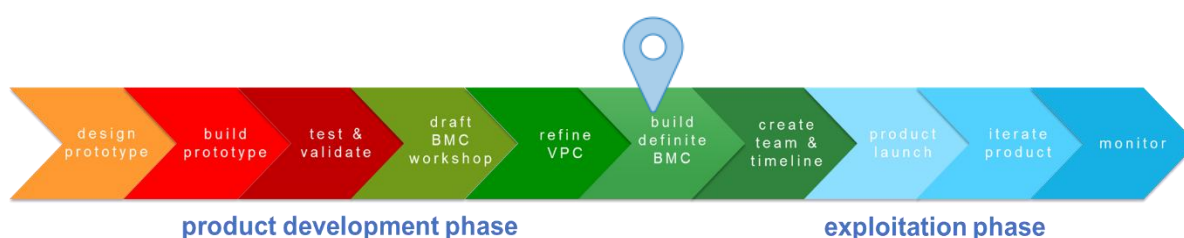
What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

Carry on developing and adapting the tool to the needs of the users/industry. Increase engagement of the users with the dashboards. In 10 years' time we hope that around 99% of the commercial pig farmers have accessed the system at least once and around 80% are using it monthly.

T11: Purchase assistant

Name of the tool	Purchase Assistant – FriskKo
Species the tool is developed for	Cattle
Group in charge of the development of this tool	SVA
Person in lead of tool development	Wiktör Gustafsson
Person in lead of tool implementation	Personnel at Växa (Swedish dairy cattle association)

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE PURCHASE ASSISTANT

The wind swept across the rolling green hills of Västerlund Valley, echoing with the gentle calls of grazing cattle. For generations, the dairy farmers here had lived by the rhythm of the seasons — milking at dawn, tending to calves, and praying that the dreaded word salmonella never appeared in their herd's records.

Every few years, samples were collected from every dairy farm, as part of the National Control Program. It was a tense time. A single positive result could mean devastating economic losses — quarantines, halted sales, and the slow bleed of reputation.

But there was another way.

Those who wanted more control over their herd's fate could join the **Voluntary Health Watch**, a program run by the Farmer's Association. Four times a year, trained vets came to test for salmonella and other dangerous pathogens. The results gave farmers peace of mind — or at least a fighting chance to act before disaster struck.

The problem was, the results stayed locked away in dusty filing cabinets and private folders. Farmers who wanted to trade animals with others had no way to prove their herd's health status quickly. Deals fell through. Trust was fragile.

That was before **The Purchase Assistant**.

The Arrival of the Tool

It began with a whisper at the association's annual meeting. A young software developer named Elin, whose family had farmed in the valley for three generations, stood up and unveiled her creation: an online platform where farmers could upload their lab results, see the most recent health data, and match their herds with others of the same health status for safe, transparent trading. The room buzzed with cautious excitement.

The First Test

Farmer Johan Lindström was the first to try it. His herd had just passed the quarterly tests with flying colours, and he needed to buy two high-yield cows before winter. Using The Purchase Assistant, he found a match in the neighbouring county — a farmer named Marta whose herd had identical health status.

They met, shook hands, and traded animals without a shadow of doubt. Word spread fast.

The Turning Point

One autumn morning, the Board of Agriculture announced a salmonella outbreak in a neighbouring region. Panic rippled through the farming community — but those on The Purchase Assistant could instantly see which herds were safe, which were at risk, and where movement restrictions applied.

For the first time, the valley didn't descend into chaos. Trade continued — carefully, transparently, and without the usual fear.

The Legacy

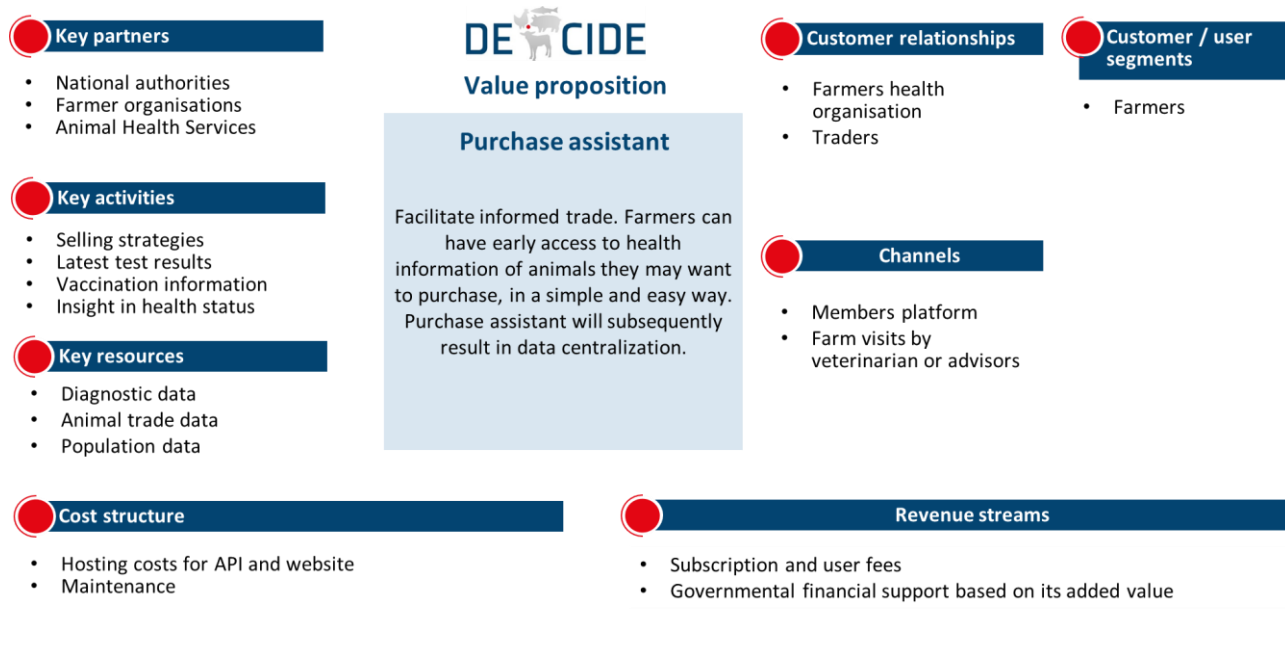
By spring, The Purchase Assistant had become more than a tool. It was a lifeline. Farmers began using it not just for trading, but for building a network of trust, sharing advice, and even pooling resources for herd health improvements.

Elin stood on her family's porch one evening, watching the sun dip behind the barns. She knew the fight for herd health would never truly end — but now, the farmers had something they'd never had before.

A way to stand together.

THE BUSINESS MODEL

BMC for farmers:



BMC for traders:



BMC for veterinary advisors and practitioners :



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

- Regular meetings with stakeholders (dairy farmer associations)
- Translation/adaption of Swedish version for Norwegian market
- Piloting in Sweden, Norway and UK, and tool evaluation with
 - farmers,
 - traders
 - veterinarians from the dairy farmer association
 - large animal veterinary practitioners outside the dairy farmer association.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

- Analyze evaluation data and deliver results to stakeholders.
- Maintain dialogue with the dairy association
- Expand dialogue with stakeholders to also include other organisations and countries
- Translate user interface of the tool into English and Dutch
- Pilot the tool with veterinary practitioners in the UK
- Add function to include vaccination status of animals for sale
- Documentation of tool installation and usage (readme, specification)

What are you planning with regards to exploitation at the mid-term (up to 4 years after the project)?

- The tool will be shared with the dairy association Växa, for them to consider integration of the tool in their member platform/app.
- Expand dialogue to include more stakeholder organisations
- Explore potential expansion of the health monitoring functions in the tool
- Investigate legal requirements to include additional data sources (such as antibiotic usage data, meat inspection data, other lab tests)
- Involvement in further tool development in collaboration with stakeholders (as advisors or for our own hosting of the tool)

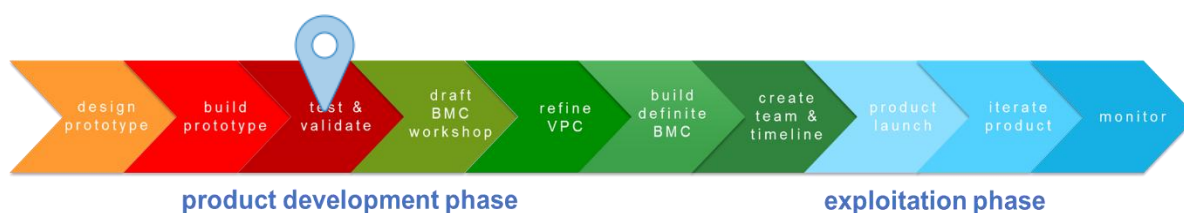
What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

Involvement in further tool development in collaboration with stakeholders

T12: The Pig Barometer

Name of the tool	Pig Barometer
Species the tool is developed for	Pigs
Group in charge of the development of this tool	IRTA and Ghent University
Person in lead of tool development	Beatriz Garcia-Morante and Joaquim Segalés
Person in lead of tool implementation	Beatriz Garcia-Morante and Joaquim Segalés

EXPLOITATION STATUS AT THE END OF THE DECIDE PROJECT



STORY BEHIND THE PURCHASE ASSISTANT

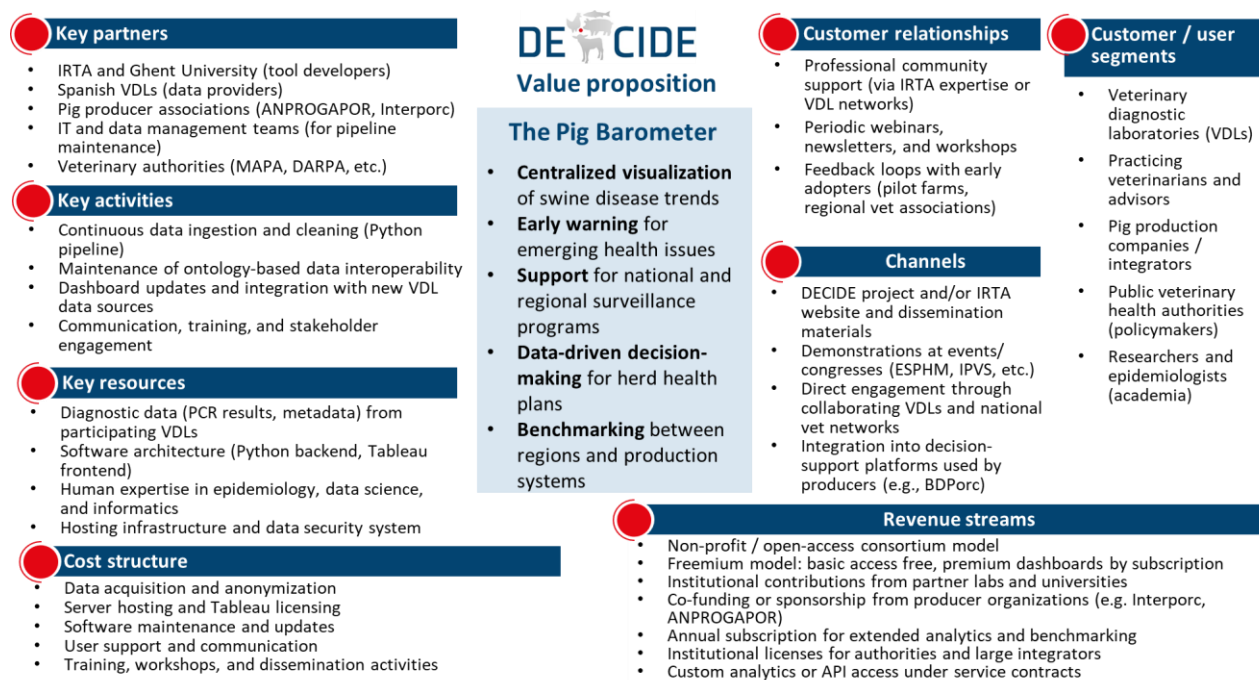
In the heart of Spain's pig-producing regions, veterinarians and farmers face a constant challenge — how to stay one step ahead of endemic diseases that silently spread through herds. Diagnostic laboratories work tirelessly, running PCR tests every day, yet the information remains fragmented and slow to reach those who need it most. That was until the Pig Barometer came to life.

Developed within the DECIDE project, the Pig Barometer brings together diagnostic data from veterinary labs across Spain into one intuitive, interactive platform. Instead of waiting for reports or relying on anecdotal impressions, veterinarians can now see the bigger picture in real time — pathogen trends, regional outbreaks, and seasonal dynamics — all visualized through elegant dashboards.

*Dr. Coma, a field veterinarian in Catalonia, logs into the Pig Barometer before visiting her clients. She spots a sudden rise in *Mycoplasma hyopneumoniae* detections in young pigs across her province. With this trend, she advises her farmers to strengthen biosecurity and monitor coughing closely. Two weeks later, while others are just noticing symptoms, her farms remain stable.*

What once felt reactive now feels strategic. The Pig Barometer transforms diagnostic data into foresight — empowering veterinarians and farm managers to make faster, smarter, and evidence-based decisions. It's not just about data — it's about anticipation, collaboration, and better herd health.

THE BUSINESS MODEL



EXPLOITATION STATUS AND FUTURE PLANS

What was already done in terms of exploitation?

During the initial phase of tool development, the potential value and usability of the Pig Barometer were discussed in a focus group with veterinarians, conducted as part of WP5. The results of this consultation have been published in Porcine Health Management (2024 Oct 10;10(1):40. doi: [10.1186/s40813-024-00389-3](https://doi.org/10.1186/s40813-024-00389-3)). Following this, stakeholder engagement expanded through a series of meetings with Spanish veterinary diagnostic laboratories (VDLs). After agreeing to participate and signing data transfer agreements, these laboratories contributed anonymized diagnostic data for the development of the prototype dashboard.

The first prototype, integrating PCR data from multiple VDLs and covering three major swine pathogens from 2020 onwards, was successfully tested internally. The complete data pipeline—from data cleaning in Python, conversion into RDF for semantic interoperability, to visualization in Tableau—was validated. Initial dissemination took place through DECIDE communication channels and presentations at ESPHM and AVEDILA. A second focus group with veterinarians was also conducted to evaluate the pilot version and collect feedback for further improvement. Consequently, the focus for this tool has shifted from exploitation to evaluation, aiming to identify the requirements for optimization and address the technical and operational challenges encountered, thereby defining the most effective pathway for future development.

What are you planning to do with regards to exploitation in the final year of the DECIDE project?

Within DECIDE, and recognizing the potential of the Pig Barometer, efforts in the final project year will focus on the refinement of the dashboards and user interface, incorporating feedback obtained during the first evaluation phase. Stakeholder workshops involving veterinarians and pig integrators will be organized to further collect user perspectives and practical recommendations. To complement these qualitative inputs, a digital survey will be conducted in late 2025 or early 2026 to quantitatively assess the tool's performance. The survey will evaluate two main dimensions: (i) perceived usability (ease of navigation, clarity of visualization, and intuitiveness), and (ii) perceived usefulness (relevance for decision-making and added value for herd health management). The results will be analyzed within the WP5 evaluation framework to ensure methodological consistency. Dissemination of outcomes and updates will take place through national pig health networks and the DECIDE website.

What are you planning with regards to exploitation at the mid-term (up to 4 years after the

In the medium term, efforts will focus on the further development and consolidation of the Pig Barometer as a reliable decision-support tool for the pig industry. The number of participating veterinary diagnostic laboratories (VDLs) will be expanded to increase geographical coverage and enhance the representativeness of the national dataset. To streamline and standardize data exchange, automated data transfer protocols and ontology-based formats will be implemented, ensuring interoperability and reducing manual workload for data providers. Collaboration with industry partners (e.g. Zoetis, MSD, HIPRA) will be sought to support co-branding opportunities, outreach, and potential integration into broader health-monitoring platforms.

The improved tool will undergo field validation through pilot testing with selected veterinary practices, production companies, and with pig producer organizations and associations (e.g. Interporc, ANPROGAPOR) that can act as key stakeholders and sponsors in maintaining and disseminating the platform. This process will provide valuable feedback on the tool's usability, accuracy, and added value under real-world conditions. In parallel, collaboration with public veterinary authorities, including the Spanish Ministry of Agriculture, Fisheries and Food (MAPA) and regional veterinary services, will be actively pursued to embed the Pig Barometer within national and regional animal health surveillance frameworks. These alliances will help secure institutional support, ensure alignment with public health objectives, and guarantee the continuity of data sharing and infrastructure maintenance beyond the DECIDE project.

What are you planning with regards to exploitation at the long-term (between 4 and 10 years after the project)?

In the long term, the Pig Barometer aims to evolve into a pan-European surveillance platform, expanding its scope beyond Spain through integration with European data networks and institutions such as ESVAC, EFSA, and future Horizon Europe initiatives focused on animal health. This expansion will require the development of standardized APIs to ensure full interoperability with national and European surveillance databases. As the dataset grows in volume and diversity, AI and machine learning algorithms will be progressively incorporated to enable outbreak prediction, pathogen trend forecasting, and the establishment of herd- or region-specific baselines for early warning. These innovations will continuously enhance the analytical depth and predictive capacity of the tool.

In parallel, aggregated data will support the further development of advanced dashboards that display historical data and long-term epidemiological trends, enabling cross-country benchmarking and evidence-based decision-making. The large-scale datasets generated will also facilitate cost-benefit evaluations and impact assessments, demonstrating the value of coordinated surveillance for animal health, productivity, and antimicrobial reduction.

Long-term sustainability will be pursued through strategic partnerships with diagnostic laboratory networks, producer organizations, and public veterinary health agencies, ensuring that the Pig Barometer remains an independent, science-based public good. The added value of the tool is expected to increase substantially over time as its capacity to deliver early warnings and inform targeted interventions becomes more widely recognized, ultimately contributing to healthier herds, reduced treatment costs, and improved sectoral resilience across Europe.