

THE AI-CUBE BUSINESS MODEL GAME

**Reimagining the status quo of the
Process Industries**

INTRODUCTION

The AI-CUBE Business Model Game is a tool to help organizations explore and imagine what the future of Artificial Intelligence (AI) and Big Data in the process industry will look like. Through this fun and interactive AI-CUBE Business Model Game, players will get into the shoes of different key actors in the value chain and reimagine the status quo of the process industries, analyzing the current state of Artificial intelligence and big data in the process industries and defining their future.

Let's unravel the ideas that could impact the process industry and make them thrive! Provided with an overview of the existing value chains, main business problems and opportunities, and the most common AI and Big Data technologies used to tackle them, players will explore the status quo and create new AI and Big Data-driven business models for the process industries.

This tool was created by PNO Consultants and the AI-CUBE (Artificial Intelligence and Big Data CSA for Process Industry Users, Business Development and Exploitation) project consortium, a project funded in 2020 under the European Union's Horizon 2020 Research and Innovation Programme (<https://www.ai-cube.eu/>).

THE GAME MECHANICS

Explore cutting-edge technologies, supply chains, and business models in this fast-paced and interactive game. Players collaborate to create innovative Business Models tailored for the industry, leveraging AI and Big Data. Uncover opportunities, solve challenges, and shape the future of the Process Industry!

THE FORMAT

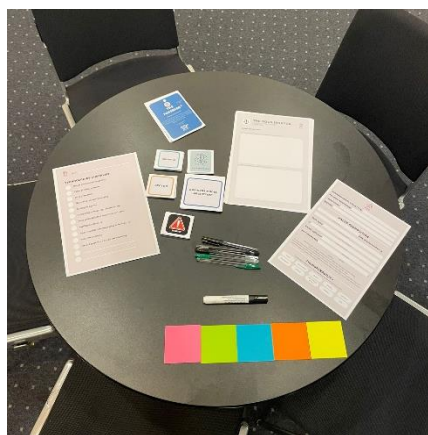
In the AI-CUBE Business Model Game, players engage in a captivating role-play format. Each participant assumes a specific role and actively contributes from that perspective. Together, they reimagine and design unique case scenarios, leveraging their assigned roles. The Game Master oversees the entire game, while Moderators guide and support the teams, ensuring optimal results. Embrace your role, unleash your creativity, and enjoy the inventive journey that awaits in this exciting game.

THE SET UP

The AI-CUBE Business Model Game can be played in either a physical or virtual setting. Here's an overview of the ideal setup:

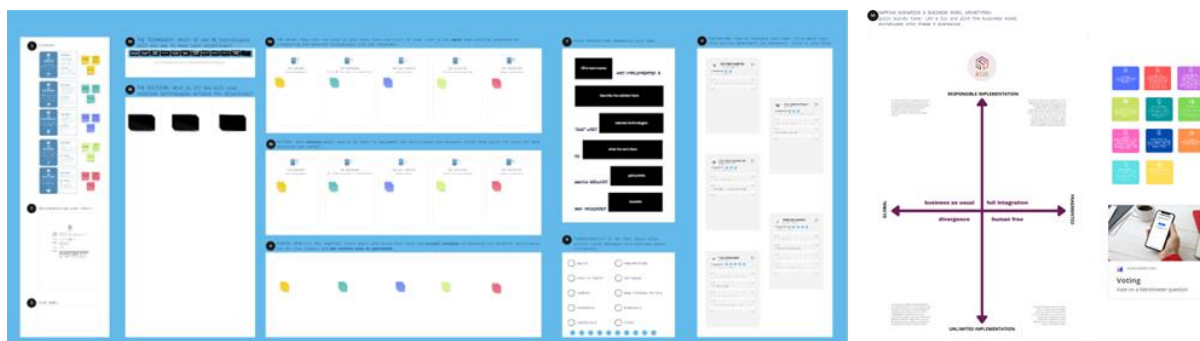
Teams: Each team should consist of five players, and it's recommended to have no more than four teams playing simultaneously. Additionally, each team should have a dedicated Team Moderator.

Physical Space: If played physically, the ideal setup would be a room spacious enough for teams to have their own designated area with minimal disturbance. Each team should have approximately 2 meters of wall space for their work, along with a table containing game components, post-its, pens, etc. Chairs are optional, as participants are encouraged to stay on their feet.



Online Space: If played virtually, participants will be invited to an online meeting via platforms like MS Teams, Zoom, or any other video conferencing tool. The game introduction will take place in the main session, followed by teams breaking into online breakout rooms for

discussions. An online whiteboarding tool like MIRO will be used to facilitate the game virtually. Each team will have a dedicated workspace on the MIRO board. You can access the game template on MIRO at this link: [MIRO Template Link](#). The template is available on the Miroverse, a platform for sharing templates within the MIRO community.



Duration: The game, including the brief project presentation, is designed to last approximately 2 hours.

The Roles

In the AI-CUBE Business Model Game, each participant assumes a specific role with distinct objectives and responsibilities. Here are the descriptions of the roles:

GAME MASTER

The Game Master orchestrates the entire Game, ensuring all game phases are being conducted appropriately and on time.

TEAM MODERATORS

Ideally, each team will have a dedicated Team Moderator who will actively guide the players through the Game. The following is a list of the Moderator's tasks:

- Guide the team through the gameplay
- Ask questions to facilitate their brainstorming
- Help teams synthesize their responses
- Ensure they are keeping within the time limits
- Moderators also have a sort of 'disrupter' role where they 'deal' barriers to the teams as the Game progresses

PLAYERS

Each team has five players who put themselves into the shoes of the role they are enacting: The Equilibrator, the Maximizer, the Empathizer, the Foreseer and the Empowerer.

The following are the explanations of each of the roles. During the Game, this information is shared with the players on cards that are dealt out to them.

THE EQUILIBRATOR

Type of job: Production or Plant Manager (Operations)

Description: It all runs like a well-oiled machine, thanks to you! You continuously optimize production processes while efficiently keeping the machines and tools in their best condition.

Mantra: Safety + efficiency = productivity

Goals: Make sure everyone and everything is working to their full capacity; Keep finding ways to make systems and processes flow more efficiently

THE MAXIMIZER

Type of job: Sales or Service Manager (Sales & Marketing)

Description: You know your customer inside-out and are focused on continuously solving their problems. A happy customer means a returning customer, which means more profits for the company.

Mantra: Make a customer, not just a sale.

Goals: Increase profits for the company; Keep customers happy so they stay loyal; Keep all departments informed about what the customers need

THE EMPATHIZER

Type of job: Talent Manager (HR)

Description: You always have your people's needs at heart, and your workforce's requirements and occupational wellbeing are your number 1 priority.

Mantra: A happy workforce is a productive workforce!

Goals: Keep current workforce happy; Attract new talent; Win 'best-place-to-work' award

THE FORESEER* The decider

Type of job: Top Management (C-Level)

Description: You are always thinking about what the future can hold for your company, and you have a plan. You're a strategic decision-maker and always a few steps ahead of everyone else.

Mantra: Always be prepared!

Goals: Make the tough choices - you can't please everyone; Strategize for long-term solutions
Constantly strive for excellence; Beat the competition!; Profit and purpose, always.

THE EMPOWERER *The outsider

Type of job: AI & BD Technology Provider or Consultant (Third-party)

Description: Your finger is on the pulse of what the industry needs. You love creating synergies and collaborations. You're an 'outsider', but you're always there when companies need your advice or new solutions.

Mantra: I have a tool for that!

Goals: Look for opportunities to sell your services and technologies; Find ways to collaborate;
Think of new solutions that the company could utilize to enhance their offering

Game Phases

The Game is played in three phases. The first phase is the Introduction where the AI-CUBE project is briefly introduced. The Game's objective is explained as well as how each team's outputs will be used. After which, the game flow is described. The next phase is Playing the Game. Through a guided session, the players will design and analyze their AI and BD-driven business model innovations for the process industry and evaluate them. The last phase is the Conclusion, where Teams will share their ideas with the rest of the group. Below is a detailed time plan and a step-by-step breakdown of each phase from start to end:

Step	Start	Duration	Game Phases	Game Components	Moderator Notes
1	00:00	00:05	Getting settled in the room (scheduled late start)	-	The moderators will use this time to welcome people and set a playful tone in the room
2	00:05	00:10	AI-CUBE Presentation - About AI-CUBE - The objective of the game - How the results will be used - The game flow	Presentation By AI-CUBE	This will be a very short presentation presented by AI-CUBE
3	00:15	00:10	The participants very briefly introduce themselves: name, actual job title, icebreaker question	-	The Game Master instructs them to share: their name, job title, and answer to the icebreaker question (super power/country they are from...)
4	00:25	00:08	The moderator deals the role cards - describing what each role is The same colour teams go to their spaces	Role Cards Wall Space AI-CUBE Canvas Stationery	Deal the cards - if there are people who have the roles in real life, propose that they play those same roles in the game Players with the same coloured cards go to their corresponding spaces. Clear doubts

5	00:33	00:15	<p>The Moderator gives the team their Implementation Case and reads it to them / asks someone to read it</p> <p>They clear any doubts with the Moderator</p> <p>If needed, they do google searches to clear doubts at this stage</p>	Implementation Case Sheet	Support the team at this stage to understand the case
6	00:48	00:02	Teams give themselves a 'company name'- they write this on a post-it and stick it on their wall space / canvas	Stationery	
7	00:50	00:20	<p>Through a discussion, the team selects the technologies that will help them meet their objective</p> <p>If they want to add more objectives, they can.</p> <p>On the canvas, they summarize their idea and explain how it will help meet their objectives</p>	<p>Technology Checklist</p> <p>Objectives Checklist</p> <p>AI-CUBE Canvas</p> <p>Stationery</p>	<p>Some questions that you could use if they seem stuck:</p> <p>What new resources will be needed? Where will the data come from? Is this technology already in use to achieve a similar objective? What is innovative about the way you will use it? How can your department solve this problem? How can we seize the opportunities? Is this really the best tech to use?</p>
8	01:10	00:10	The value that would be generated by integrating the technologies into the value chain from the perspective of each role	<p>AI-CUBE Canvas</p> <p>Stationery</p>	Support them with ideas if they seem stuck

9	01:20	00:10	The actions that would need to be taken, from the perspective of each role – this includes the procurement of new resources, identification of costs etc.	AI-CUBE Canvas Stationery	Give BARRIER CARDS to any of the roles – stick them onto the canvas in the allocated space. You are handing them a sudden roadblock that they need to think about and overcome
10	01:30	00:05	The overall benefits that the technology will bring and the different ways revenue will be generated.	AI-CUBE Canvas Stationery	The Moderator might need to help the team to summarize their thoughts
11	01:35	00:05	Finalize the idea by filling out a summary of it and sticking it on the canvas in the allocated space	Value Proposition Sheet AI-CUBE Canvas	The Moderator hands this out to the team members and ideally, the FORESEER will fill this in as they are the final decision-makers
12	01:40	00:05	Each actor will evaluate their idea based on predefined criteria.	Final Evaluation Sheet	The Game Master explains that for each criterion, the actor must give a score Team Moderators can clear any doubts
13	01:45	00:05	Everyone gathers around the Scenario Space and the Game Master explains the 4 scenarios	Scenario Poster	The Game Master asks everyone to come to the Scenario Space
15	01:50	00:10	Each team shares their Value Proposition with the rest of the group and then plots the Business Model Archetype they worked on in the most fitting quadrant	Scenario Poster Value Proposition Sheet	Team Moderators can guide the teams to select the right quadrant
END	02:00	-			Thank everyone for participating

This is a suggested time plan for facilitators to follow and has been tested at the AICHEMA 2022 trade fair on the 25th of August, 2022.

For the online version of the game, the table below shows the instructions that are shown on the MIRO board for teams to refer to at any time. Identical to the physical version of the game, here too the moderator and Game Master will ensure that everything runs on time and following the proposed sequence of events. The MIRO board for the AI-CUBE Business Model Game can be accessed at this link: <https://miro.com/miroverse/aicube-business-model-game/?social=copy-link>. It has been submitted to the Miroverse which is where templates are shared by the MIRO community.

STEP	DURATION	GAME PHASE	MODERATOR NOTES
STEP 1	10 minutes	Team introductions	What is your name? What is your 'real' job? What is your super power?
STEP 2	13 minutes	The Implementation Case	Read through the implementation case sheet together. In case you have doubts, ask the moderator for help. While discussing the case with your team, feel free to do a quick google search for anything that may not be very clear for you.
STEP 3	2 minutes	The Company Name	This is very important! Quickly! Think of a name for your new company.
STEP 4a and 4b	20 minutes	Selecting the right technologies to meet your objectives.	It's time to discuss your solution. What technologies will help you to reach your objectives? How will you achieve this?
STEP 5a and 5b	20 minutes	The implications	If you weren't already fully immersed in your role, now it's time! It's time for some individual brainstorming on the value your solution will bring and the actions needed to achieve it. What value will this solution bring from your point of view? What impact will it have on your department? What actions would you need to take to achieve this value? Would you need new resources? Would there be new costs?
STEP 6	10 minutes	The overall benefits	Reflect on what your colleagues have noted down. Together note down all the benefits that the new technologies will bring (to your organisation, its people, society, the environment....). Also, are the different ways revenue will be generated?
STEP 7	5 minutes	The Value Proposition	Using the template on your board, fill out the Value Proposition of your new Business Model Innovation.
STEP 8	5 minutes	Transferability	Select which other sectors this idea could be transferred to
STEP 9	5 minutes	Final Evaluation	Using the templates on your board, fill out your specific evaluation form. You need to evaluate your idea from the perspective of the role you are playing.
STEP 10	10 minutes	Mapping the Business Model Archtypes	After the Game Master describes each scenario, through a quick survey, each of the players will map the Business Model Archtypes that they have worked on.

Game Components

The AI-CUBE Business Model Game incorporates various components specifically designed to enhance the gameplay experience. Each team will have access to the following set of components.



The cases that you need to consider:

A company working in:

works in:

by introducing their business with:

one of will improve it by:

How you will do it:

How AI & SD will solve the situation?

Individual brainstorming on the value that would be generated by incorporating the technologies into the accounts, and the actions that would need to be taken, from the perspective of each role.

	FORESEER Top Management	EQUILIBRATOR Operational	MAXIMIZER Sales & Marketing	EMPATHIZER Human Resources	EMPOWERER Tech & Service Provider
Moderators' Support	NAME & COMPANY	NAME & COMPANY	NAME & COMPANY	NAME & COMPANY	NAME & COMPANY
	THE VALUE	THE VALUE	THE VALUE	THE VALUE	THE VALUE
	ACTIONS TO ACHIEVE IT	ACTIONS TO ACHIEVE IT	ACTIONS TO ACHIEVE IT	ACTIONS TO ACHIEVE IT	ACTIONS TO ACHIEVE IT
	GENERAL CHALLENGES & REVENUE SOURCES				

The overall benefits that the technology will bring and the different ways revenue will be generated.

Summarize the decisions made.

SUMMARY OF IMPLEMENTATION CASE (Word & Foto)

IMPLEMENTATION CASE SHEET

Implementation Case Sheets are essentially the team's challenge. Each Case Sheet has the following information:

1. Business Model Archetype: one of the identified BMAs, as seen in Table 1
2. Process: a process from AI-CUBES list of identified processes
3. Objective: one of the objectives, as identified in Figure 1
4. Industrial sector: one of the 10 SPIRE Industry Sectors
5. Challenge: a brief description of the problems being faced by the company

As mentioned, the Case Sheet is distributed to the team by the Team Moderator or the Game Master. In the Annex are some examples of the Implementation Case Sheets that have been used.

ACTOR CARDS

The Actor Cards are dealt out to the game participants. Each team has 5 players – each with a specific role to play. The cards can either be dealt out randomly or if there are participants who actually work in the roles mentioned, they may choose to play those parts in the game as well.

Each Actor Card is comprised of the following information to help them put themselves in the shoes of each specific role:

On the Front

1. Name
2. Mantra
3. Description
4. Related Job Role
5. Related Department

On the Back

1. Goals
2. Questions to ask themselves

AI-CUBE CANVAS

The Canvas will be hung up on each team's dedicated wall space, in the case of the game being played online, it would be found on the Miro whiteboard.

The Canvas is the team's working space. It is where they will stick their post-it notes with all the information from their discussions and individual brainstorming.

The AI-CUBE Canvas is split into 5 sections:

1. About the Technology and the solution proposed
2. The Value that it brings from the perspective of each role
3. The Actions that will need to be taken from the perspective of each role
4. The overall benefits that the technology application will bring and the different revenue that will be generated
5. The Value Proposition – summarising the solution

TECHNOLOGY CARDS

The Technology Cards are used by the players when they are compiling their Canvas with the related information. These technologies have been identified in WP1 in D1.1 “AI & BD Technologies State-of-the-Art Review” and can also be found on the AI-CUBE website’s Glossary page - <https://www.ai-cube.eu/glossary/>. Each team will have a set of these cards. In the white space provided on each card, they can write any specifics related to the technology – to identify the sub-category of tech that they are referring to.

The following is the list of Technologies proposed:

- AI- Object and spatial recognition
- AI- Cyber-physical systems
- AI- Natural Language Processing
- AI- Intelligent agents
- AI- Data understanding and characterization
- AI- Intelligent planning
- AI- Machine Learning
- AI- Expert systems / Case-based reasoning
- BD- Data protection
- BD- Data visualization, processing and management
- BD- Computing and storage infrastructure

CHECKLISTS

The Technology, Processes and Objectives checklist are meant to be used as reference tools. The teams refer to these lists to make sure they are not missing any information. They tick off the boxes related to the selections they make regarding these three elements.

BARRIER CARDS

The Barrier Cards are dealt out to the teams by the Team Moderator at any point during their discussions. These Barriers are meant to be ‘roadblocks’ which the team will have to take into account while coming up with their solutions.

VALUE PROPOSITION SHEET

The purpose of the Value Proposition Sheet is to summarize the team’s solution, highlighting the key benefits and value that it brings – the pain points it reduces and the benefits that it increases for the case being innovated.

Teams will also reflect on the Transferability of the solution they have come up with, identifying to which other sectors their innovation may be transferred.

FINAL EVALUATION SHEET

Once the team has completed their canvas and written down their value proposition, it’s time for each role in the team to evaluate their solution based on role-specific criteria. This evaluation is done using the final evaluation sheets which the Team Moderator will hand out.

The following table defines the role-specific criteria used for the MAMCA evaluation.

Table 1 role-specific criteria used for the MAMCA evaluation

ACTOR	CRITERION DESCRIPTION
EQUILIBRATOR	The idea can be put into operation soon
	The time investment reflects the idea’s value
	We have the experience, skills and expertise to make this real
MAXIMIZER	There is a real need for this
	The idea has some market stability over time
	It has a natural sales appeal
	It has the potential to retain customers long-term
EMPATHIZER	We have the needed experience, skills and expertise to implement this
	It will have a big negative human impact
	It will have a big positive human impact
FORESEER	This idea will have a long term impact
	This idea will change the economic structure of the industry
	The risk factors are acceptable
	This idea will set us apart from the competition
	The potential returns are enough to justify the cost of pursuing the idea
EMPOWERER	There is potential for collaboration
	This idea could be a service or technology that we provide to other companies

SCENARIO POSTER

During the Conclusion Phase of the workshop, all teams gather around the scenario poster, where they briefly describe their solution – using their Value Proposition Sheet. They then plot their Business Model Archetype on the Scenario Poster. The scenarios and their definitions were previously identified in D2.4 where they were created for the MAMCA evaluation in the impact assessment. These scenarios are being used again here.

The 4 scenarios are as follows:

Full integration

In this scenario AI & BD has evolved and it's integrated in all the departments and processes of the industry. AI & BD helps the operators with dangerous and repetitive work, improving efficiency and optimizing processes, humans can focus on core activities and be more productive. AI and BD help with sales and other services as well as at strategic level, helping with decision making, customer satisfaction and new products design. AI&BD technologies allow the optimization of resource management along the supply chain.

Business as usual

AI & BD technology has been slightly introduced in the industry and contributed in a limited way to the organization objectives and the optimization of production, processes and maintenance. Humans are the main resource in the organization. Natural evolution of the industry with time.

Divergence

Low investment in AI&BD technologies lead to a low implementation level in many companies, with only big firms investing in these technologies and displacing small companies from the market, making differences between small and big companies even bigger in terms of competitiveness (potentially leading to “irresponsible” use of AI & BD because of unfair competition, abuse of power by large firms and reduced customer welfare).

Human free

AI has been extensively used in the industry with no control or protective strategy, replacing a large number of workers in industry. Organizations trim head count as a result of AI technologies eliminating humans from organizations. Society segregation (pro AI or against AI). Humans jealous of the attention AI gets.

STATIONERY

Each team must be provided with post-it notes, pens, permanent markers and tape.

The Game Kit

The game components in this section can be printed out following the printing instructions:

Implementation Case Sheets: A4

Actor Cards: A4 front and back and then cut them out

Canvas: you can print this out as big as you like – or just recreate it on a big sheet of paper

Technology Cards: A4 front and back and then cut them out

Checklists: A4

Barrier Cards: A4 front and back and then cut them out

Value Proposition Sheet: A4

Final Evaluation Sheet: A4

Scenario Poster: A2

Implementation Case Sheets



Business Model Archetype	SUSTAINABLE <i>Profitable and resilient activities that benefit society and the environment.</i>
Process	Process control and optimization (PC & O)
Objective	IMPROVED PROCESS UNDERSTANDING, OPTIMIZATION & CONTROL <i>Optimized process (redesign, energy and time savings, cost reduced, productivity/yield increased etc.); Improved process understanding/mapping; Performance assessment and prediction</i>
Sector	PULP & PAPER
Challenge	<p>A well-known Paper company in Sweden is looking for a solution to its Paper Web Breakage problem which leads to a lot of time and material loss and inefficiencies.</p> <p>During this break, chopped paper is removed from the machinery and the equipment is cleaned. These events naturally occur when the strain on the web is greater than the strength of the paper and can be triggered by a number of causes such as excessive operating tension or poor formations in the paper web.</p> <p>It has been noted that breakage of the paper web is a critical issue for manufacturing processes of the pulp and paper industry, typically resulting in a 5-12% production loss and around 7% loss in total revenue. Given that the global pulp and paper industry produced worldwide revenues of around \$63 billion dollars in 2018 (360 Market Reports, 2019), the web breakage issue alone translates to a loss in revenues of around \$4 billion dollars yearly.</p>



Business Model Archetype CIRCULAR
Preserving value in the form of energy, labour, and materials. This means designing for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy.

Process Process control and optimization (PC & O)

Objective 360° SUSTAINABILITY
Improved sustainability

Sector MINERALS

Challenge **An Urban Mining startup is looking for a solution to streamline the sourcing of materials while focussing on their societal, environmental and economic impacts.**

While electric cars are “zero emission” when being driven, the mining, manufacturing and disposal process for batteries will become an environmental disaster for the industry as the technology goes mainstream. Each weekday, two to three heavy-duty lorries drop off about 60 tonnes worth of old smartphones, power tools and scooter batteries to the Urban Mining startup. A team of 130 employees then separates out the metals — including nickel, cobalt and lithium — pulverises them and treats them with chemicals so they can re-enter the supply chain as the building blocks for new lithium-ion batteries.



Business Model Archetype	SYMBIOTIC <i>A collaborative approach concerning the physical exchange of materials, energy, and services between partnering firms and utility sharing of related infrastructures. Creating value from waste.</i>
Process	Process control and optimization (PC & O)
Objective	ENERGY SAVING <i>Energy savings and energy efficiency</i>
Sector	CERAMICS
Challenge	A startup in Italy is working on a solution to unlock the potential of industrial waste heat generated in the firing process and transform it into power to be used by themselves or shared with other companies. The ceramic sector, due to its combustion processes, is considered energy-intensive and, accordingly, is subject to European policies aiming at reducing GHG emissions. The production process consumes high amounts of energy; in addition, energy costs represent a significant part of the total production costs.



Business Model Archetype	PROACTIVE & PREDICTIVE <i>A proactive and predictive approach helps companies plan better, make smarter decisions, run smoother and improves productivity</i>
Process	Process control and optimization (PC & O)
Objective	EFFECTIVE AUTOMATION <i>Automation implemented</i>
Sector	CHEMICALS
Challenge	A healthcare giant is facing an issue with its production planning and is in need of better forecasting and accurate tracking of the status of the supply chain. They want to reduce their warehousing and logistics costs and are considering shifting to a just-in-time production to reduce the time between demand and production - but at the same time want to be able to always meet market needs.




Business Model Archetype	<p>HYPERCONNECTED</p> <p><i>Agile, dynamic supply chains that flex to changes in demand through seamlessly integrated planning and execution.</i></p>
Process	<p>Process control and optimization (PC & O)</p>
Objective	<p>IMPROVED PRODUCTION SYSTEM AND PROCESSES: <i>Better production system design and planning</i></p> <p>OPTIMIZED PLANING: <i>Planning - prediction</i></p>
Sector	<p>STEEL</p>
Challenge	<p>A massive global player is seeking to optimize its production planning. Currently, in the steel industry, it is a task that only a small number of highly experienced staff are able to perform, its reliance on particular individuals has become a cause for concern. The company is trying to focus on solving one of its key concerns - how to tackle frequent plan revisions - without having to rely on a select few individuals. Issues such as changes to orders or problems with equipment arise on a daily basis, each time requiring plan revisions. Revising plans quickly without compromising their quality calls for the judgement of experienced staff.</p>



Business Model Archetype	COLLABORATIVE <i>Collaborative networks sharing resources</i>
Process	ALL
Objective	DATA MANAGEMENT, PROTECTION, EXPLOITATION & PROCESSING <i>Data management achieved; Data processing implemented; Data protection achieved; Data exploitation</i>
Sector	WATER
Challenge	A company working in the water management sector is struggling to provide the information they would like to due to a lack of data availability. Their aim is to improve water demand forecasts, water quality assessments, localized weather forecasting and anomaly detection to detect leakages and contamination.

Actor Cards

FRONT





key decision maker

THE FORESEER

«Always be prepared!»

You are always thinking about what the future can hold for your company, and you have a plan. You're a strategic decision-maker and always a few steps ahead of everyone else.

Top Management
(C-LEVEL)



key decision maker

THE FORESEER

«Always be prepared!»

You are always thinking about what the future can hold for your company, and you have a plan. You're a strategic decision-maker and always a few steps ahead of everyone else.

Top Management
(C-LEVEL)



key decision maker

THE FORESEER

«Always be prepared!»

You are always thinking about what the future can hold for your company, and you have a plan. You're a strategic decision-maker and always a few steps ahead of everyone else.

Top Management
(C-LEVEL)


key decision maker

THE FORESEER

«Always be prepared!»

You are always thinking about what the future can hold for your company, and you have a plan. You're a strategic decision-maker and always a few steps ahead of everyone else.

Top Management
(C-LEVEL)



BACK

Your Goals

- Make the tough choices - you can't please everyone
- Strategize for long-term solutions
- Constantly strive for excellence
- Beat the competition!
- Profit and purpose, always.

ASK YOURSELF...

*What is our long-term digital strategy?
How will this new solution align with it?
What is innovative about this idea?
What potential societal, environmental,
legislative, economic etc- impacts will it have?*

Your Goals

- Make the tough choices - you can't please everyone
- Strategize for long-term solutions
- Constantly strive for excellence
- Beat the competition!
- Profit and purpose, always.

ASK YOURSELF...

*What is our long-term digital strategy?
How will this new solution align with it?
What is innovative about this idea?
What potential societal, environmental,
legislative, economic etc- impacts will it have?*

Your Goals

- Make the tough choices - you can't please everyone
- Strategize for long-term solutions
- Constantly strive for excellence
- Beat the competition!
- Profit and purpose, always.

ASK YOURSELF...

*What is our long-term digital strategy?
How will this new solution align with it?
What is innovative about this idea?
What potential societal, environmental,
legislative, economic etc- impacts will it have?*


Your Goals

- Make the tough choices - you can't please everyone
- Strategize for long-term solutions
- Constantly strive for excellence
- Beat the competition!
- Profit and purpose, always.

ASK YOURSELF...

*What is our long-term digital strategy?
How will this new solution align with it?
What is innovative about this idea?
What potential societal, environmental,
legislative, economic etc- impacts will it have?*

FRONT





THE EMPATHIZER

«A happy workforce is a productive workforce!»

You always have your people's needs at heart, and your workforce's requirements and occupational wellbeing are your #1 priority.

Talent Manager
(HUMAN RESOURCES)






THE EMPATHIZER

«A happy workforce is a productive workforce!»

You always have your people's needs at heart, and your workforce's requirements and occupational wellbeing are your #1 priority.

Talent Manager
(HUMAN RESOURCES)






THE EMPATHIZER

«A happy workforce is a productive workforce!»

You always have your people's needs at heart, and your workforce's requirements and occupational wellbeing are your #1 priority.

Talent Manager
(HUMAN RESOURCES)





THE EMPATHIZER

«A happy workforce is a productive workforce!»

You always have your people's needs at heart, and your workforce's requirements and occupational wellbeing are your #1 priority.

Talent Manager
(HUMAN RESOURCES)



BACK

Your Goals

- Keep current workforce happy
- Attract new talent
- Win 'best place to work' award

ASK YOURSELF...

*Will we need to restructure the workforce?
How?*

Will we need to re-skill the workforce?

Will we need to fire people?

*What (new) competence balance between IT
and domain/sector/process will we need to
make this work?*

Your Goals

- Keep current workforce happy
- Attract new talent
- Win 'best place to work' award

ASK YOURSELF...

*Will we need to restructure the workforce?
How?*

Will we need to re-skill the workforce?

Will we need to fire people?

*What (new) competence balance between IT
and domain/sector/process will we need to
make this work?*

Your Goals

- Keep current workforce happy
- Attract new talent
- Win 'best place to work' award

ASK YOURSELF...

*Will we need to restructure the workforce?
How?*

Will we need to re-skill the workforce?

Will we need to fire people?

*What (new) competence balance between IT
and domain/sector/process will we need to
make this work?*

Your Goals

- Keep current workforce happy
- Attract new talent
- Win 'best place to work' award

ASK YOURSELF...


*Will we need to restructure the workforce?
How?*

Will we need to re-skill the workforce?

Will we need to fire people?

*What (new) competence balance between IT
and domain/sector/process will we need to
make this work?*

FRONT





THE EQUILIBRATOR

«Safety + efficiency = productivity»

It all runs like a well-oiled machine thanks to you!
You continuously optimize production processes while efficiently keeping the machines and tools in their best condition.

Production or Plant Manager
(OPERATIONS)






THE EQUILIBRATOR

«Safety + efficiency = productivity»

It all runs like a well-oiled machine thanks to you!
You continuously optimize production processes while efficiently keeping the machines and tools in their best condition.

Production or Plant Manager
(OPERATIONS)






THE EQUILIBRATOR

«Safety + efficiency = productivity»

It all runs like a well-oiled machine thanks to you!
You continuously optimize production processes while efficiently keeping the machines and tools in their best condition.

Production or Plant Manager
(OPERATIONS)





THE EQUILIBRATOR

«Safety + efficiency = productivity»

It all runs like a well-oiled machine thanks to you!
You continuously optimize production processes while efficiently keeping the machines and tools in their best condition.

Production or Plant Manager
(OPERATIONS)



BACK

Your Goals

- Make sure everyone and everything is working to their full capacity
- Keep finding ways to make systems and processes flow more efficiently

ASK YOURSELF...

How will this change the operational and business processes?

What new process steps do we need to introduce?

Your Goals

- Make sure everyone and everything is working to their full capacity
- Keep finding ways to make systems and processes flow more efficiently

ASK YOURSELF...

How will this change the operational and business processes?

What new process steps do we need to introduce?

Your Goals

- Make sure everyone and everything is working to their full capacity
- Keep finding ways to make systems and processes flow more efficiently

ASK YOURSELF...

How will this change the operational and business processes?

What new process steps do we need to introduce?

Your Goals


- Make sure everyone and everything is working to their full capacity
- Keep finding ways to make systems and processes flow more efficiently

ASK YOURSELF...

How will this change the operational and business processes?

What new process steps do we need to introduce?

FRONT




THE MAXIMIZER

«Make a customer, not just a sale.»

You know your customer inside-out and are focused on continuously solving their problems. A happy customer means a returning customer, which means more profits for the company.

*Sales or Service Manager
(SALES AND MARKETING)*






THE MAXIMIZER

«Make a customer, not just a sale.»

You know your customer inside-out and are focused on continuously solving their problems. A happy customer means a returning customer, which means more profits for the company.

*Sales or Service Manager
(SALES AND MARKETING)*






THE MAXIMIZER

«Make a customer, not just a sale.»

You know your customer inside-out and are focused on continuously solving their problems. A happy customer means a returning customer, which means more profits for the company.

*Sales or Service Manager
(SALES AND MARKETING)*





THE MAXIMIZER

«Make a customer, not just a sale.»

You know your customer inside-out and are focused on continuously solving their problems. A happy customer means a returning customer, which means more profits for the company.

*Sales or Service Manager
(SALES AND MARKETING)*



BACK

Your Goals

- Increase profits for the company
- Keep customers happy so they stay loyal
- Keep all departments informed about what the customers need

ASK YOURSELF...

*What cost savings will we realise?
What new income will the implementation of the AI & BD technologies generate?
Will it lead to higher customer satisfaction?
Does it open opportunities to reach new markets?*

Your Goals

- Increase profits for the company
- Keep customers happy so they stay loyal
- Keep all departments informed about what the customers need

ASK YOURSELF...

*What cost savings will we realise?
What new income will the implementation of the AI & BD technologies generate?
Will it lead to higher customer satisfaction?
Does it open opportunities to reach new markets?*

Your Goals

- Increase profits for the company
- Keep customers happy so they stay loyal
- Keep all departments informed about what the customers need

ASK YOURSELF...

*What cost savings will we realise?
What new income will the implementation of the AI & BD technologies generate?
Will it lead to higher customer satisfaction?
Does it open opportunities to reach new markets?*

Your Goals

- Increase profits for the company
- Keep customers happy so they stay loyal
- Keep all departments informed about what the customers need

ASK YOURSELF...

*What cost savings will we realise?
What new income will the implementation of the AI & BD technologies generate?
Will it lead to higher customer satisfaction?
Does it open opportunities to reach new markets?*

FRONT




THE EMPOWERER

«I have a tool for that!»

Your finger is on the pulse of what the industry needs. You love creating synergies and collaborations. You're an 'outsider' but you're always there when companies need your advice or new solutions.

AI & BD Technology Provider or Consultant






THE EMPOWERER

«I have a tool for that!»

Your finger is on the pulse of what the industry needs. You love creating synergies and collaborations. You're an 'outsider' but you're always there when companies need your advice or new solutions.

AI & BD Technology Provider or Consultant






THE EMPOWERER

«I have a tool for that!»

Your finger is on the pulse of what the industry needs. You love creating synergies and collaborations. You're an 'outsider' but you're always there when companies need your advice or new solutions.

AI & BD Technology Provider or Consultant





THE EMPOWERER

«I have a tool for that!»

Your finger is on the pulse of what the industry needs. You love creating synergies and collaborations. You're an 'outsider' but you're always there when companies need your advice or new solutions.

AI & BD Technology Provider or Consultant



BACK

Your Goals

- Look for opportunities to sell your services and technologies
- Find ways to collaborate
- Think of new solutions that the company could utilize to enhance their offering

ASK YOURSELF...

How can you complement what the company is offering?

What could you offer as a third-party to enhance the current offering?

What is the future of my business model (AI-as-a-Service opportunities?)

Your Goals

- Look for opportunities to sell your services and technologies
- Find ways to collaborate
- Think of new solutions that the company could utilize to enhance their offering

ASK YOURSELF...

How can you complement what the company is offering?

What could you offer as a third-party to enhance the current offering?

What is the future of my business model (AI-as-a-Service opportunities?)

Your Goals

- Look for opportunities to sell your services and technologies
- Find ways to collaborate
- Think of new solutions that the company could utilize to enhance their offering

ASK YOURSELF...

How can you complement what the company is offering?

What could you offer as a third-party to enhance the current offering?

What is the future of my business model (AI-as-a-Service opportunities?)

Your Goals

- Look for opportunities to sell your services and technologies
- Find ways to collaborate
- Think of new solutions that the company could utilize to enhance their offering

ASK YOURSELF...

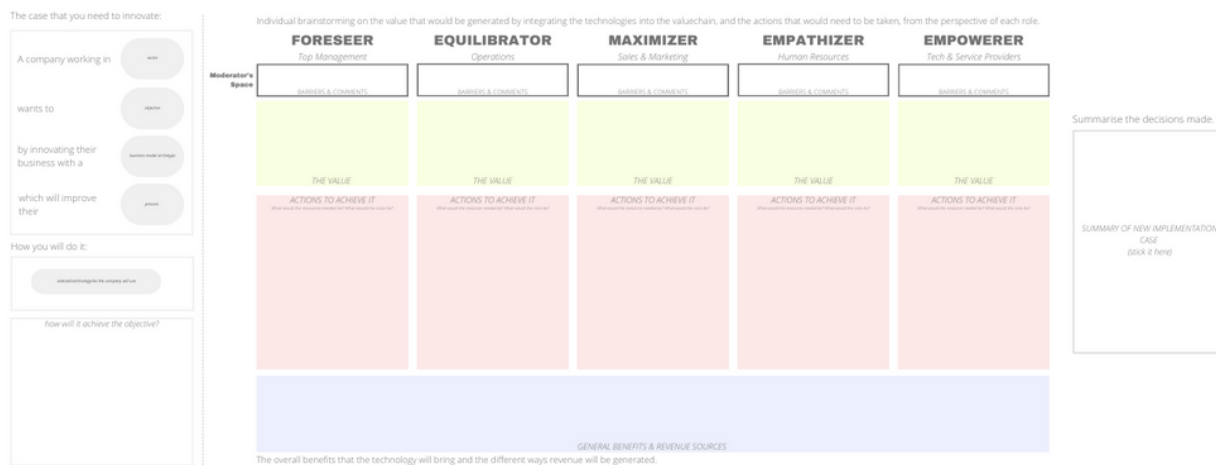
How can you complement what the company is offering?

What could you offer as a third-party to enhance the current offering?

What is the future of my business model (AI-as-a-Service opportunities?)

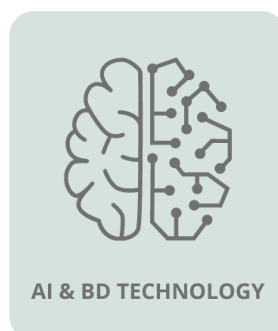
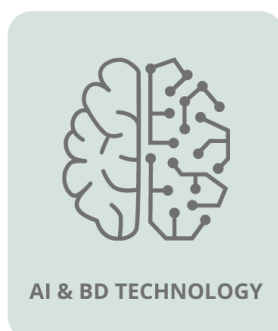
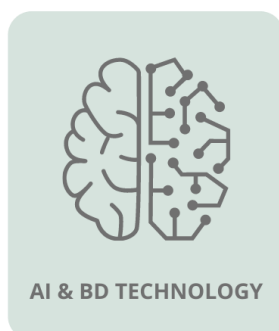
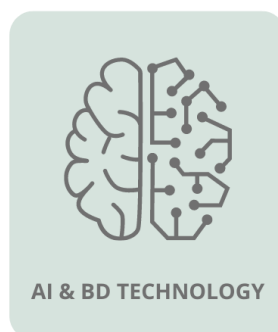
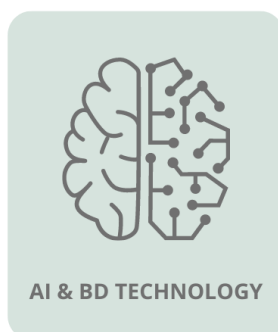
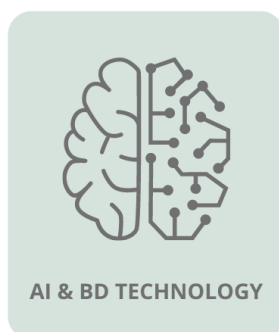
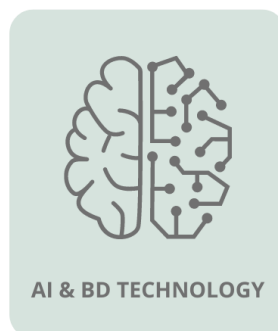
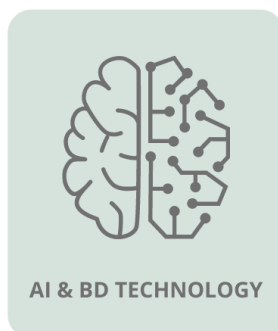
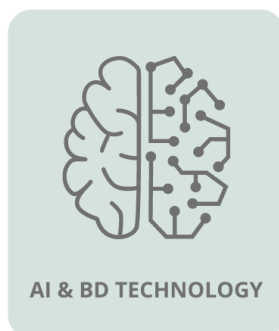
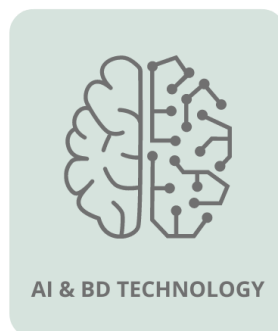
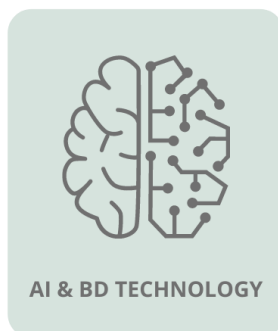
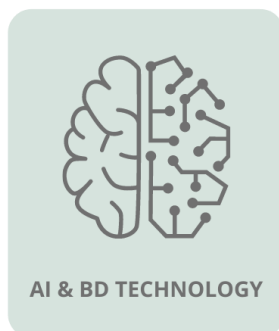
Canvas

The canvas can be recreated depended on the space that is being used. What is important is to have spaces for each of the Actors to write down the Value and the Actions to achieve it. And then the space where the group collectively writes down the General Benefits and Revenue Sources.

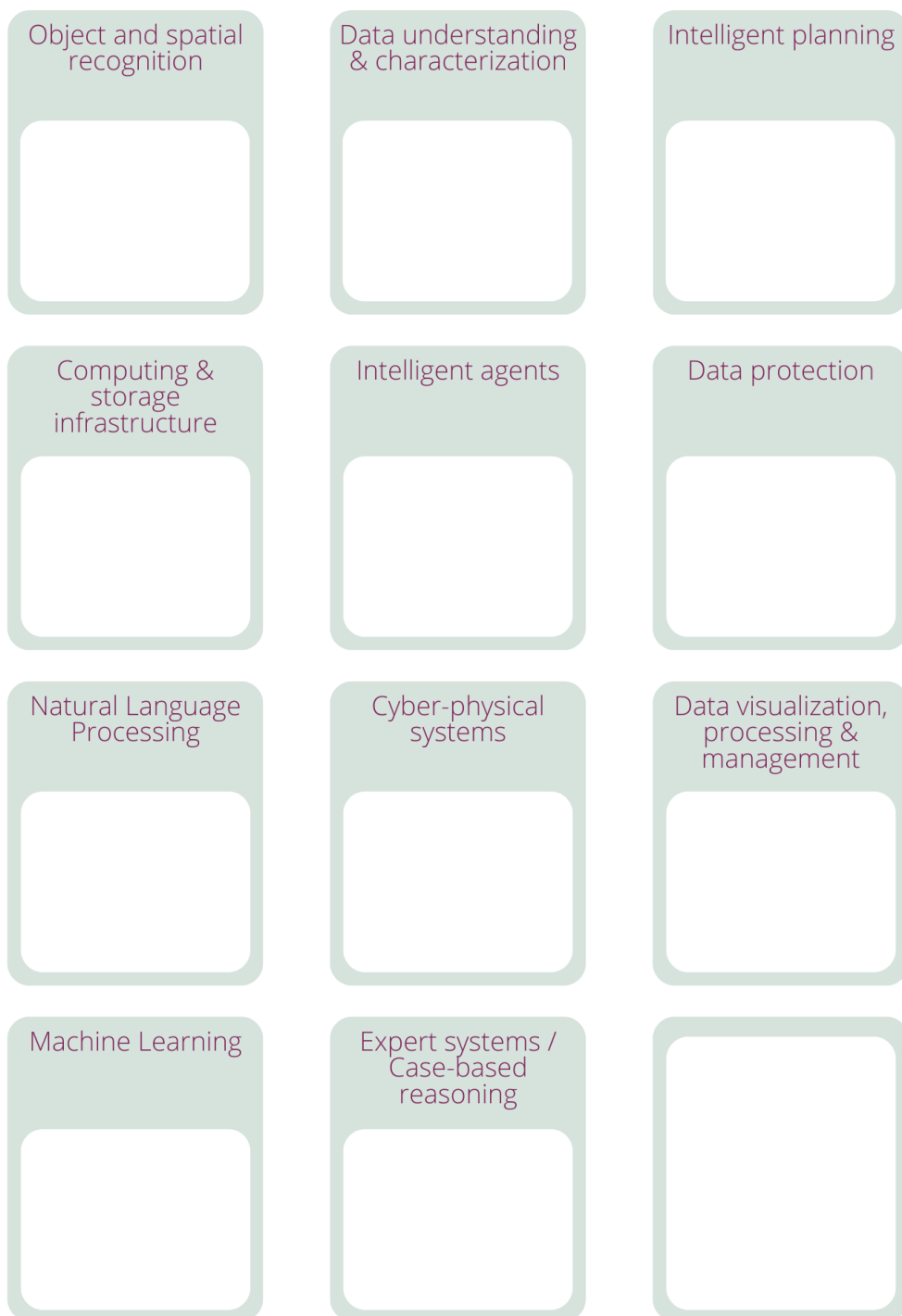


Technology Cards

FRONT



BACK



Checklists



TEAM: _____

TECHNOLOGIES CHECKLIST

- Object and spatial recognition**
- Cyber-physical systems**
- Data protection**
- Natural Language Processing**
- Intelligent agents**
- Computing and storage infrastructure**
- Data understanding and characterization**
- Intelligent planning**
- Data visualization, processing & management**
- Machine Learning**
- Expert systems / Case-based reasoning**
- _____
- _____



TEAM: _____

PROCESSES CHECKLIST

- MARKET TRENDS AND OPEN INNOVATION
- PRODUCT DESIGN/CUSTOMIZATION
- PREDICTIVE MAINTENANCE
- SUPPLY CHAIN MANAGEMENT
- PROCESS CONTROL AND OPTIMIZATION
- RESEARCH AND INNOVATION MANAGEMENT
- _____
- _____



TEAM: _____

OBJECTIVES CHECKLIST

DATA MANAGEMENT, PROTECTION, EXPLOITATION & PROCESSING

IMPROVED SECURITY & SAFETY

AWARENESS OF FUTURE AND PRESENT MARKET NEEDS & TRENDS

OPTIMIZED DECISION MAKING

ENHANCED PRODUCT

IMPROVED PRODUCT

IMPROVED PROCESS UNDERSTANDING, OPTIMIZATION & CONTROL
Optimized process (redesign, energy and time savings, cost reduced, productivity/yield increased etc.); Improved process understanding / mapping; Performance assessment and prediction

IMPROVED PRODUCTION SYSTEM AND PROCESSES

EFFECTIVE AUTOMATION

ENERGY SAVING

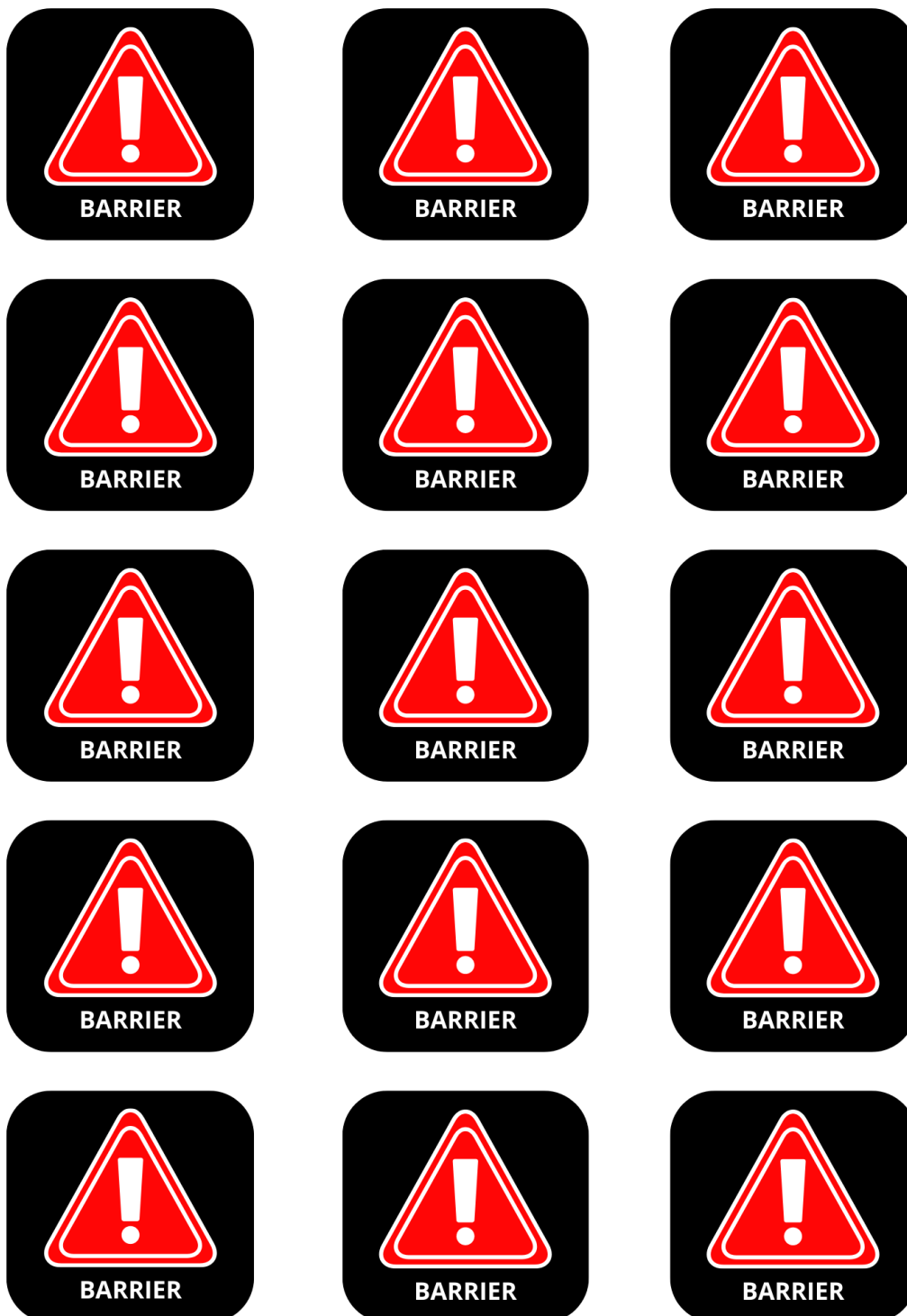
360° SUSTAINABILITY

MORE PRECISE QUALITY CONTROL & DEFECT DETECTION

IMPROVED FAULT DETECTION & FORECASTING

Barrier Cards

FRONT



Back



Value Proposition Sheet



BUSINESS MODEL ARCHETYPE: _____

PROCESS ADDRESSED: _____

OBJECTIVES: _____

SECTOR: _____

VALUE PROPOSITION

_____ has implemented a
(team name)

(what the solution is)

that uses _____
(AI & BD technologies)

to _____
(what the tech does)

reduces ----- _____
(pain points)

increases ----- _____
(benefits)

EXAMPLE

Business model archetype: Quality Assessment; Objective: Optimized Decision Making;

Process addressed: Process Control & Optimization; Sector: Water

The Crystal Clean company has implemented a micro-particle identification system that uses image recognition tech embedded in drones to identify micro-particles in natural water bodies, which reduces water contamination risks and increases the supply of clean water.

TRANSFERABILITY

Indicate what other sectors could implement this kind of business model.

- | | | | | |
|-------------|--------------|--------------------|----------|-----------|
| WATER | PULP & PAPER | CEMENT | CERAMICS | CHEMICALS |
| ENGINEERING | REFINING | NON-FERROUS METALS | MINERALS | STEEL |

Final Evaluation Sheet



THE EMPATHIZER
Talent Manager
HR



FINAL EVALUATION

We have the needed experience, skills and expertise to implement this



absolutely
disagree

absolutely
agree

It will have a big negative human impact



absolutely
disagree

absolutely
agree

It will have a big positive human impact



absolutely
disagree

absolutely
agree



THE EMPOWERER

AI & BD Tech and Service Provider
THIRD-PARTY PROVIDER



FINAL EVALUATION

There is potential for collaboration



This could be a service or technology that we provide to other companies





THE EQUILIBRATOR

Production or Plant Manager
OPERATIONS



FINAL EVALUATION

The idea can be put into operation very soon

absolutely disagree absolutely agree

The time investment reflects the idea's value

absolutely disagree absolutely agree

We have the experience, skills and expertise to make this real

absolutely disagree absolutely agree



THE FORESEER

Top Management
C-LEVEL



FINAL EVALUATION

This idea will have a long-term impact

absolutely disagree absolutely agree

This idea will change the economic structure of the industry

absolutely disagree absolutely agree

The risk factors are acceptable

absolutely disagree absolutely agree

This idea will set us apart from the competition

absolutely disagree absolutely agree

The potential returns are enough to justify the cost of pursuing the idea

absolutely disagree absolutely agree



THE MAXIMIZER

Sales or Service Manager
SALES AND MARKETING



FINAL EVALUATION

The cost to execute it is worth it

absolutely disagree absolutely agree

There is a real need for this

absolutely disagree absolutely agree

The idea has some market stability over time

absolutely disagree absolutely agree

It has a natural sales appeal

absolutely disagree absolutely agree

It has the potential to retain customers long-term

absolutely disagree absolutely agree

Scenario Poster

