

Gen A.I. for Innovation





China's first AI-designed ice cream debuts with a price tag of only 3.5 RMB

March 30, 2023 By Qing Na In News

Zhong Xue Gao, a Chinese ice cream maker is taking the high-end Chinese-style ice cream route by unveiling **a new product line that has been fully designed by AI** (artificial intelligence). Named "Sa'Saa", which means "Satisfy And Surprise Any Adventure", the new series comprises four flavours including red bean, green bean, milk, and cocoa, as per the brand's product release in Shanghai on 29 March.



<https://youtu.be/H0h20jRA5M0>

“A.I. is redefining the
way we think and act
on innovation”

Rui Coutinho

The Innovation Status-Quo is Disrupted



INSIGHTS COLLECTION



IDEA GENERATION



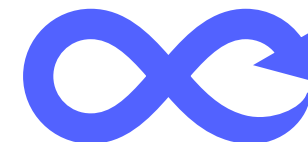
DECISION MAKING



RISK ASSESSMENT



COLLABORATION



EFFICIENCY

Innovation Fundamentals are Transformed

BEFORE A.I.

Data is one of the
resources around
which
innovation
activities
are built.

CHANGE INTRODUCED BY A.I.

Data becomes the new
gold.
Without data, there are
no AI-powered inventions
and innovations.

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI,
Technology in Society, Volume 73

Innovation Fundamentals are Transformed

BEFORE A.I.

Collaboration is important for innovation. Open innovation and closed innovation approaches are concurrently used.

CHANGE INTRODUCED BY A.I.

AI-based innovation tools require access to big and good datasets for training. Access to large data requires new ways of collaborating.

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI, Technology in Society, Volume 73

Innovation Fundamentals are Transformed

BEFORE A.I.

IP rights,
especially patents,
are strategic assets
for value
appropriation in
tech-oriented
businesses.

CHANGE INTRODUCED BY A.I.

It is much easier to
develop competing
algorithms, which will
produce the same effect
without violating
existing patents.

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI,
Technology in Society, Volume 73

Innovation Fundamentals are Transformed

BEFORE A.I.

Humans are at the centre of decision-making and problem solving related to innovation.

Innovation tools are important, but secondary to the innovation process.

CHANGE INTRODUCED BY A.I.

AI automatizes problem solving, moving the focus of human innovation activity from designing a process to designing innovation tools. Thus, AI tools become a key part of the innovation process.

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI, Technology in Society, Volume 73

Innovation Fundamentals are Transformed

BEFORE A.I.

Companies manage a portfolio of incremental, adjacent or disruptive projects. However, the focus is dominantly on incremental innovation and exploitation activities.

CHANGE INTRODUCED BY A.I.

Next to obvious opportunities for incremental innovations, AI creates the possibility for two types of radical innovations - doing dramatically better what we already do and doing what we did not do before.

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI, Technology in Society, Volume 73



Scarcity



Abundance

The background is split horizontally. The top half is black with several dark gray, semi-transparent geometric shapes and arrows pointing outwards from the center. The bottom half is a solid blue color with similar dark blue, semi-transparent geometric shapes and arrows pointing outwards from the center.

Products & Services

Algorithms?



Solutions



Problems

“AI will significantly impact how companies innovate, rethinking value creation and value appropriation mechanisms and creating substantial space for experimenting at all levels”

Rui Coutinho

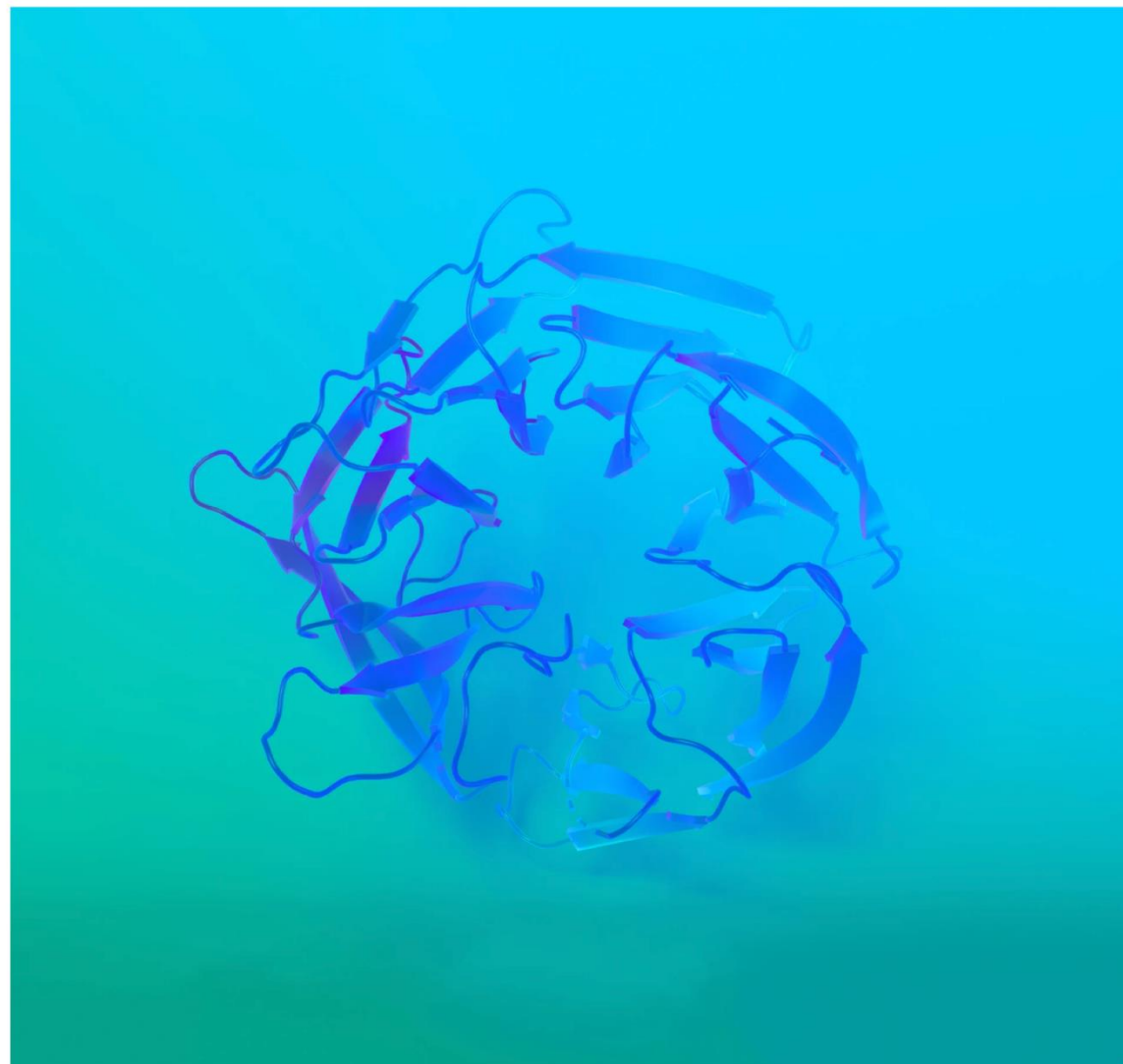
Google DeepMind

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TECHNOLOGY

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Menu

Novartis and Microsoft announce collaboration to transform medicine with artificial intelligence

Oct 01, 2019

- *Multiyear alliance underpins the Novartis commitment to leverage data & Artificial Intelligence (AI) to transform how medicines are discovered, developed and commercialized*
- *Novartis to establish AI innovation lab to empower its associates to use AI across the business*
- *Joint research activities will include co-working environments on Novartis Campus (Switzerland), at Novartis Global Service Center in Dublin, and at Microsoft Research Lab (UK) – starting with tackling personalized therapies for macular degeneration; cell & gene therapy; and drug design*

The digital press release with multimedia content can be accessed here:



Basel, and Redmond, October 1, 2019 – Novartis today announced an important step in reimagining medicine by founding the Novartis AI innovation lab and by selecting Microsoft as its strategic AI and data-science partner for this effort. The new lab aims to bolster Novartis AI capabilities from research through commercialization and help accelerate the discovery and development of transformative medicines for patients worldwide.

As part of the strategic collaboration announced, Novartis and Microsoft have committed to a multi-year research and development effort. This strategic alliance will focus on two core objectives:

- 1) **AI Empowerment.** The lab will aim to bring the power of AI to the desktop of every Novartis associate. By bringing together vast amounts of Novartis datasets with Microsoft's advanced AI solutions, the lab will aim to create new AI models and applications that can augment our associates' capabilities to take on the next wave of challenges in medicine.
- 2) **AI Exploration.** The lab will use the power of AI to tackle some of the hardest computational challenges within life sciences, starting with generative chemistry, image segmentation & analysis for smart and personalized delivery of therapies and optimization of cell and gene therapies at scale.

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We'd like to understand how incredibly complex biological networks misfire or dysregulate in disease and identify the best points to intervene to restore health. AI is already transforming this field, and we are further building this technology to make discoveries we couldn't uncover with traditional methods.

The banner features a top navigation bar with the following links: ABOUT US, OUR PRODUCTS, COMPOSTABLE BAGS, VIDEOS, and WHERE TO BUY. To the right of these links are search and social media icons for a magnifying glass, Instagram, Facebook, and Twitter. The main visual is a bag of Off the Eaten Path 'veggie crisps' (Rice, Peas, Black Beans) surrounded by fresh vegetables like carrots, tomatoes, and pea pods. The bag includes labels for 'NON GMO VERIFIED', 'Real Veggies', 'MADE WITH REAL VEGGIES', and 'GLUTEN FREE'. The text 'OFF x THE EATEN Path' is prominently displayed in the top left corner of the banner area.

OFF x THE
EATEN
Path

ABOUT US OUR PRODUCTS COMPOSTABLE BAGS VIDEOS WHERE TO BUY

Q Instagram Facebook Twitter

OFF x THE
EATEN
Path
SNACKS FOR THE CURIOUS.
veggie crisps
Rice, Peas, Black Beans
MADE WITH REAL VEGGIES
GLUTEN FREE
NON GMO VERIFIED
Real Veggies

hungry for a
new adventure?



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Get started

Limitless Research. Unlimited Opportunities.

Transform data into growth opportunities for your **food and beverage brand**.

Get started



Givaudan

Kraft *Heinz*



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Before

4 month for 3 concepts,
based on ad-hoc research



Tastewise

6 days for 20 concepts,
real-time consumer
insights

133X

Faster marketing & product
concepts, resulting in:



SAFE, ITERATIVE

at the speed of (light) the consumer



[HOW WE HELP ▼](#) | [WHY US](#) | [RESOURCES ▼](#) | [ABOUT US ▼](#) | [WHITE SWAN](#) | [BOOK DEMO](#)

PepsiCo 360° trends: Next generation insights from Trendscape

With a growing demand for healthier drinks and snacks, PepsiCo needed to predict trends to help them move faster and smarter than their competitors.

[READ CASE STUDY](#)

03.





Understand

Understanding ends
in insight



IMMERSE

DREAM

Create

Creation ends in
ideas



IDEATE

Deliver

Deliver ends in reality



VALIDATE

PERFECT

IMPACT

Gen AI Innovation Tools

(illustrative; non exhaustive)

Task Type	Tool	Purpose	Pricing
Ideation and Brainstorming	ChatGPT	Generate ideas, facilitate brainstorming, draft concepts.	Free tier; Plus at \$20/month.
	Board of Innovation (Free Tools)	Tools for ideation templates and exercises.	Free.
	Ideanote	Manage and prioritize innovation suggestions.	Custom pricing based on features.
	Miro AI	Enhance virtual whiteboarding with AI for idea clustering.	Starting at \$10/month per user.
Market Research and Trend Analysis	Quid	Analyze trends and insights from datasets.	Custom pricing for enterprise use.
	Crimson Hexagon	Social data analysis for market trends.	Custom enterprise pricing.
	Exploding Topics	Discover trending topics and emerging markets.	Free tier; Pro starts at \$39/month.
Customer Insights and Co-Creation	Synthetic Users	Generate realistic personas and simulate user feedback.	Paid plans starting at \$25/month.
	Typeform AI	Automate surveys and analyze responses.	Free tier; Paid plans from \$25/month.
	Sprig AI	Gather and analyze user feedback.	Free for basic; Paid plans from \$50/month.
	Dovetail	Synthesize qualitative research.	Free for basic; Paid plans from \$10/user/month.
Prototyping and Product Design	Figma AI	Design iterations and wireframing with AI.	Free tier; Paid plans from \$12/user/month.
	Runway ML	Create visual assets, animations, and prototypes.	Free trial; Plans start at \$12/month.
	Khroma	Generate color palettes and design inspiration.	Free.
Process Automation and Project Management	Asana AI	Automate task management and insights.	Free tier; Premium from \$10.99/user/month.
	Trello AI Power-Ups	Enhance Kanban boards with AI for task automation.	Free tier; Premium from \$5/user/month.
	Zapier AI	Automate workflows in innovation projects.	Free tier; Paid plans from \$19.99/month.
Scenario Building and Predictive Analysis	Scenario Generator by IFTF	Build and visualize future scenarios.	Custom pricing for enterprise use.
	CrystalKnows	Predict behavior patterns and customize solutions.	Paid plans from \$29/month.
	DataRobot	Build predictive models for analysis.	Custom pricing for enterprise use.
Content Creation and Communication	Jasper AI	Create project proposals, pitches, and marketing content.	Plans start at \$49/month.
	Copy.ai	Generate marketing copy and idea summaries.	Free tier; Pro at \$36/month.
	Canva AI	Create professional presentations and materials.	Free tier; Pro from \$12.99/month per user.
Testing and Validation	OpenAI Codex	Test software prototypes and generate code.	Custom pricing based on API usage.
	UsabilityHub	Validate design decisions with user feedback.	Free for basic; Paid plans from \$79/month.

Innovation Stage

Innovation Goal

Understand
Understanding ends
in insight



DREAM

IMMERSE

This is the time to define the problem you have in hands: the basis of the project is set up.

Immersing into the problem involves setting up the ground for defining who are the stakeholders you will be focusing on.

The goal is to understand correctly the problem, perceive the ecosystemic variations of it and learn as much as possible.

Run secondary research activities:

- Market / Industry Research
- Trend Research
- Contextualization
- Analogue research

Run primary research activities:

- Interviews
- Immersion
- Observation
- Shadowing

Innovation Stage

Innovation Goal

Understand
Understanding ends
in insight



DREAM



IMMERSE

Run secondary research activities:

- Market / Industry Research
- Trend Research
- Contextualization
- Analogue research

 OpenAI

Run primary research activities:

- Interviews
- Immersion
- Observation
- Shadowing

Syntheticusers

Generate your Persona

- Demographics
- Psicographics
- Digigraphics
- Etc

 Claude

Innovation Stage

Innovation Goal



Ideation is where you focus more directly on the solution to the problem you have in hands and explore possible ideas.

This is a divergence stage, for idea generation.

Several tools may be used, in order to facilitate fast ideation.

The most important is to keep an open mind and taking notes all the time.

Keep an open mind and restrain from limiting yourself.

Do not judge during ideation. [L
SEP]

Apply a “yes, and...” rather than a “no...” or “yes, but...mentality.

Let anything happen and build upon each other’s ideas.

Innovation Stage

Innovation Goal

Create
Creation ends in
ideas



IDEATE

Brainstorm

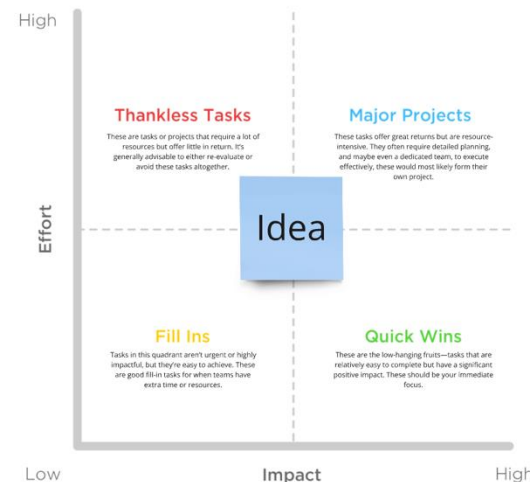
- Generate many possible ideas
- Build on the insights coming from the previous stage

 OpenAI

Select the most promising ideas

- Run “impact-effort matrix”

 OpenAI

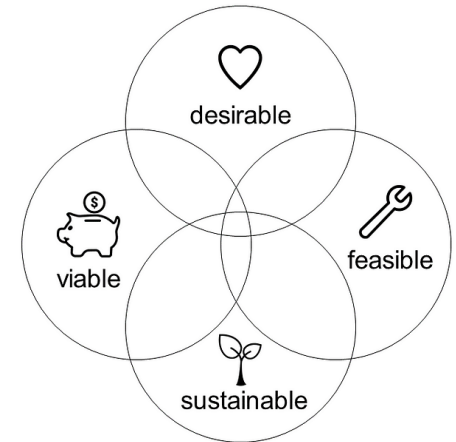


Innovation Stage

Innovation Goal

It's time to validate if your idea has any connection to reality.

**Is it desirable?
Is it feasible?
Is it viable?
Is it sustainable?**



We use customer validation, prototyping and testing to achieve (or not) validation.

The process of validation bridges the gap between conceptual ideas and real, workable solutions. Validation allows solution developers to answer questions and validate/invalidate assumptions leading to the iterative testing, learning, and refinement of components and complete solutions.

IMPACT

PERFECT

VALIDATE

Deliver
Deliver ends in reality



Innovation Stage

Innovation Goal

Customer Validation

- Go back and interview people about your idea
- Build on the insights coming from the previous stage

 OpenAI

Syntheticusers

Mom Test GPT:

<https://chatgpt.com/g/g-39JE76pPx-mom-test>

IMPACT

PERFECT

VALIDATE

Deliver
Deliver ends in reality



Innovation Stage

Innovation Goal

Deliver
Deliver ends in reality



IMPACT

PERFECT

VALIDATE

Start defining your business model

- Run a Business Model Canvas for your idea

 OpenAI

Business Model Generator GPT:
<https://chatgpt.com/g/g-NnfTKogsa-business-model-generator>



Viability

Innovation Stage

Innovation Goal

Deliver
Deliver ends in reality



IMPACT

PERFECT

VALIDATE

Customer Validation

- Go back and interview people about your idea
- Build on the insights coming from the previous stage

**OpenAI***Syntheticusers*

Mom Test GPT:

<https://chatgpt.com/g/g-39JE76pPx-mom-test>

Start defining your business model

- Run a Business Model Canvas for your idea

**OpenAI**

Business Model Generator GPT:

<https://chatgpt.com/g/g-NnfTKogsa-business-model-generator>

Prepare your pitch

- Prepare a 2m pitch of your solution

**OpenAI**

The Innovation Team Changes



A.I. COMPLEMENTORS

HUMANOLOGISTS

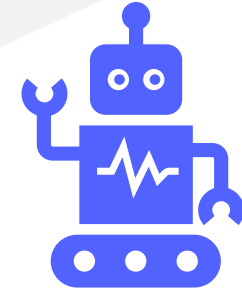
RIGHT PROBLEMS



A.I. IMPLEMENTORS

TECHNOLOGISTS

RIGHT SOLUTIONS



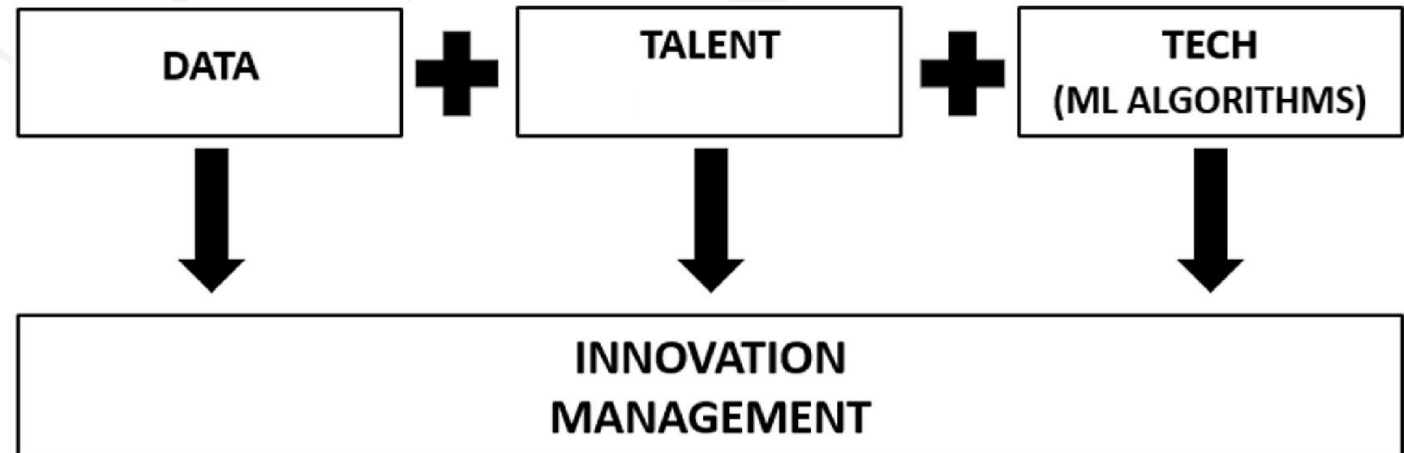
A.I. TOOLS

ROBOTS

RIGHT PROCESSES

Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI, Technology in Society, Volume 73

Innovation Management is Challenged



Source: Tekic, Z., Füller, J. (2023) Managing innovation in the era of AI, Technology in Society, Volume 73

9 Implications for Innovation

01

In the era of AI, data will become a key driver of the innovation process and its management.

02

In the era of AI, innovation will be more collaborative and open than it is today.

03

In the era of AI, ethical usage of data will become a key challenge for the innovation process and its management.

9 Implications for Innovation

04

In the era of AI, the control of data will offer better protection of innovation than existing IP rights.

05

In the era of AI, AI complementors as task designers, and AI implementors as innovation tool builders will become key members of innovation teams.

06

In the era of AI, AI tools will become a key element of an innovation management toolbox.

9 Implications for Innovation

07

In the era of AI, the main challenge for innovation teams will be a new type of diversity – one which will emerge from human and artificial intelligence working together.

08

In the short to medium term, AI will significantly influence the incremental innovations in organizations, focusing on optimization and efficiency.

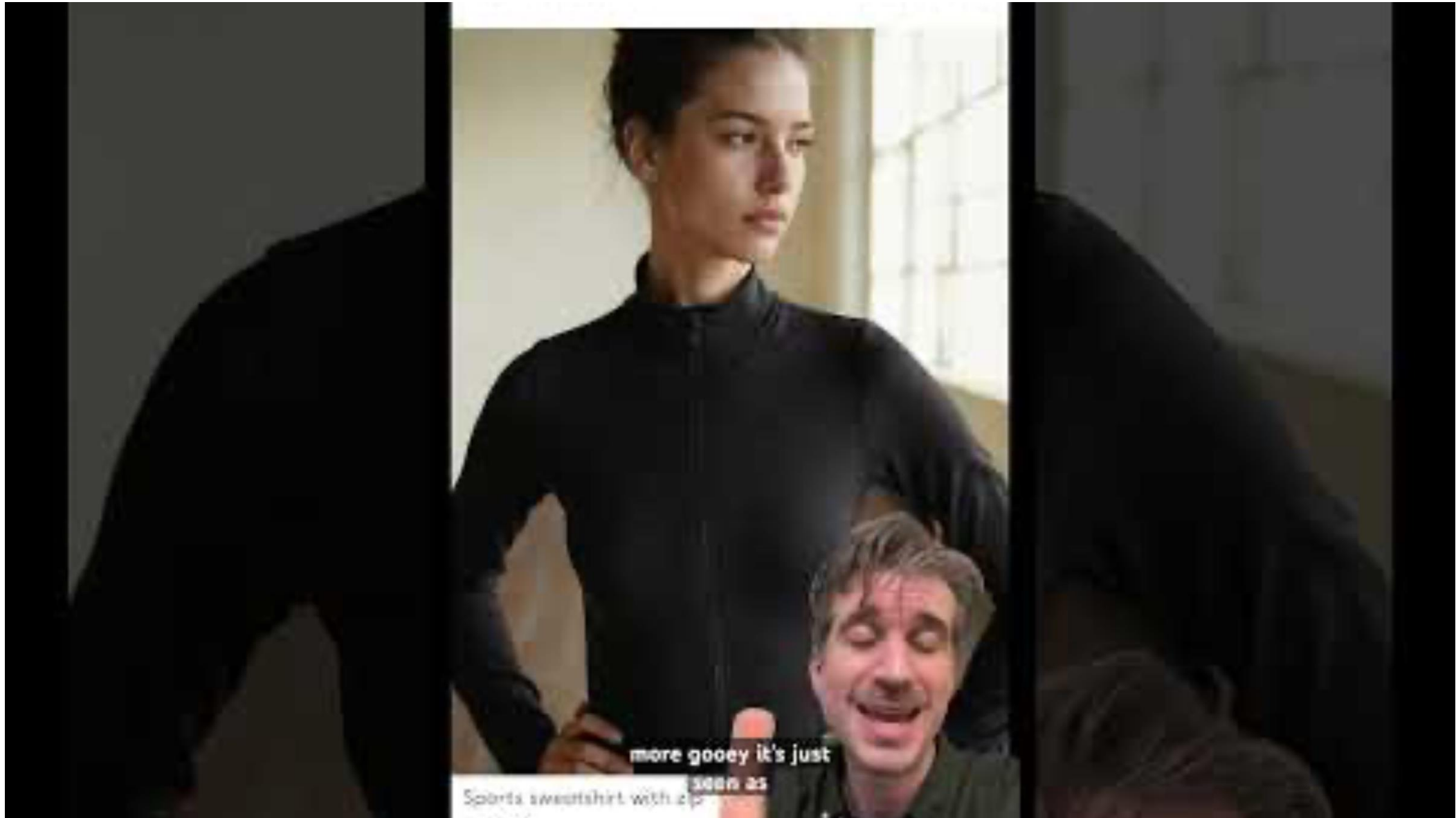
09

In the medium to long term, the main challenge for the AI-powered innovation process will be how to escape the incremental innovation trap build transformations.

“Artificial Intelligence needs Emotional Intelligence”

Rui Coutinho





The Autonomous Vehicle Dilemma



The Hiring Algorithm Dilemma



The Healthcare AI Dilemma



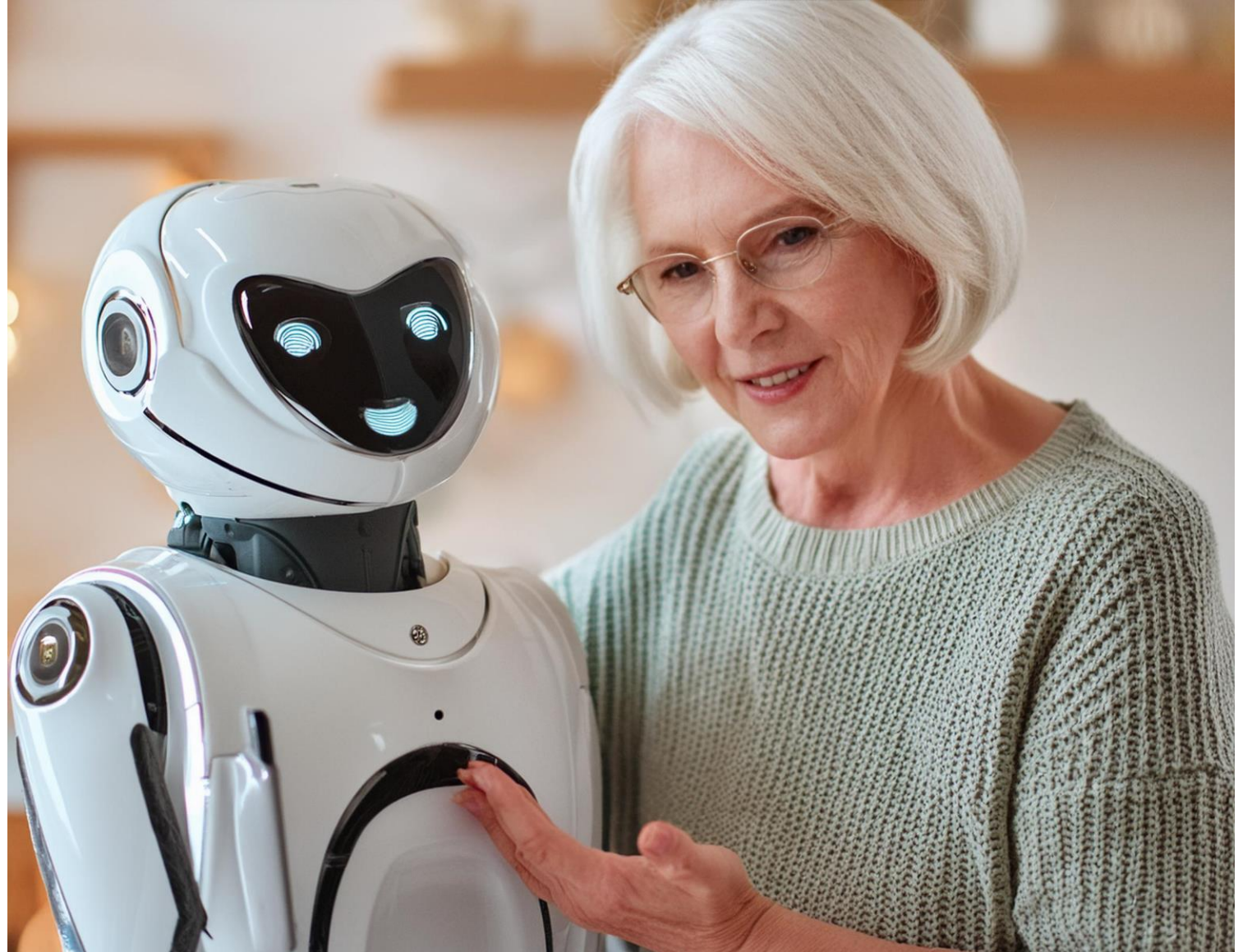
The Surveillance AI Dilemma



The AI Art Generator Dilemma



The AI Emotional Companion Dilemma



Potential Harms

Harm to People

- Individual: Harm to a person's civil liberties, rights, physical or psychological safety, or economic opportunity.
- Group/Community: Harm to a group such as discrimination against a population sub-group.
- Societal: Harm to democratic participation or educational access.

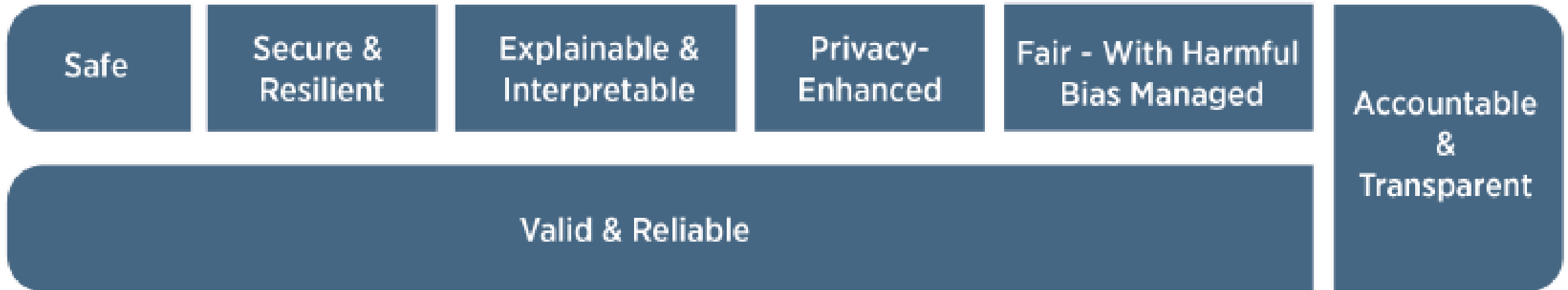
Harm to an Organization

- Harm to an organization's business operations.
- Harm to an organization from security breaches or monetary loss.
- Harm to an organization's reputation.

Harm to an Ecosystem

- Harm to interconnected and interdependent elements and resources.
- Harm to the global financial system, supply chain, or interrelated systems.
- Harm to natural resources, the environment, and planet.

Responsible A.I.



Source: Artificial Intelligence Risk Management Framework, National Institute of Standards and Technology, 2023

Safe A.I.



<https://icfg.eu/wp-content/uploads/2024/11/ICFG-We-have-no-Science-of-safe-AI-Full-Report.pdf>

(Let's chat)



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