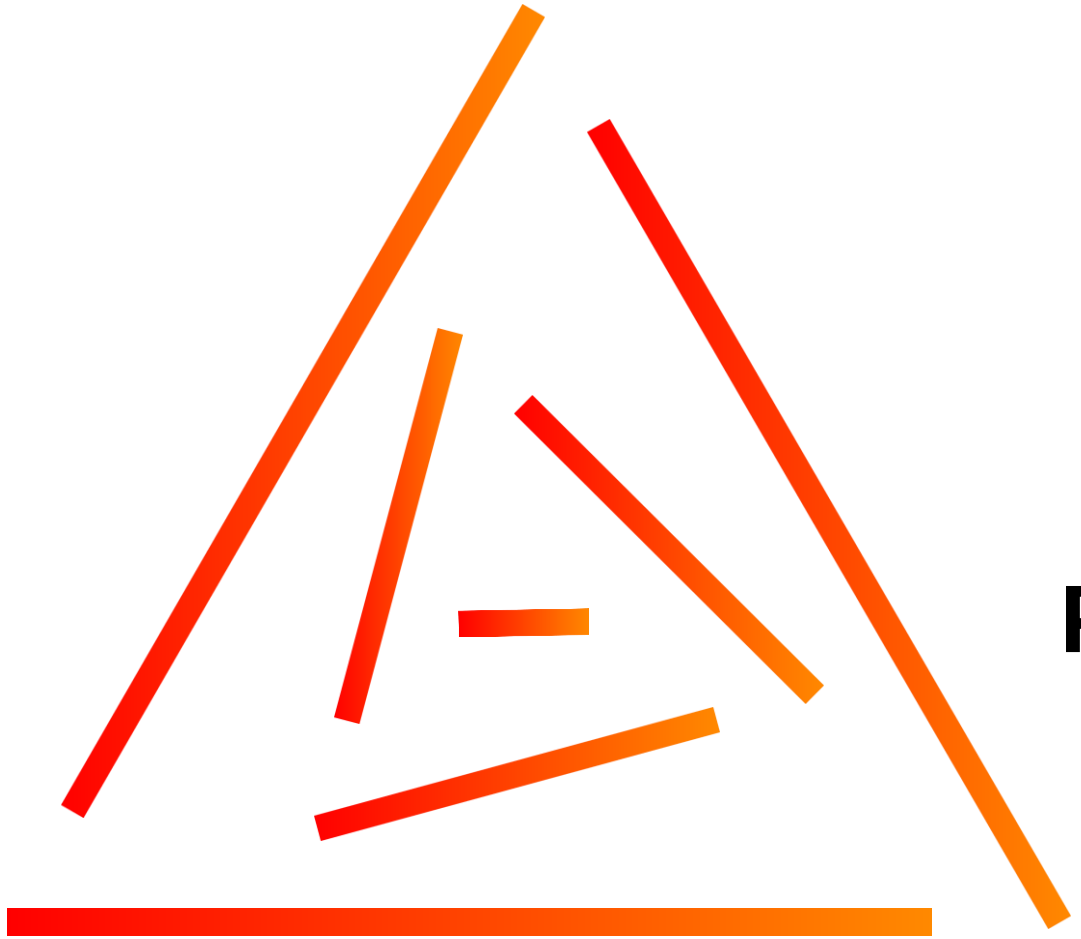


Navigating the AI Era - State of AI today and Prospects for tomorrow

Our speakers

Fabrice Asvazadourian

CEO

sopra steria next

Isabelle Pons

Deputy lead
AI for Business Practice

sopra steria next

Yves Nicolas

Group CTO,
rAIse Program lead

sopra steria

Bruno Maillot

Lead
AI for Business Practice

sopra steria next

Navigating the AI Era

Agenda

1. Introduction
2. State of AI: *where do we stand?*
3. Prospect for tomorrow: *what opportunities ahead?*
4. From POC to value: *how can AI be successfully scaled up?*

sopra steria next

Sopra Steria Next, a leading European management consulting firm

- Our **2,500 business consultants** and **1,500 tech consultants** work together daily to devise new responses to the challenges posed by the digital, geopolitical and environmental revolutions.

4,000 ***consultants***

30 ***offices*** across Europe

- Part of the **Sopra Steria Group**, a Tech leader in Europe

56,000 ***employees***

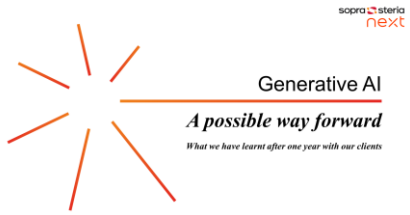
4,000 ***Data & AI specialists***

500 ***AI experts***

- Founding member of the French research consortium : **Confiance.ai** (Trustworthy AI).

Engaged side-by-side with its clients in the AI reinvention of businesses

- Publication of a position paper on Generative AI in early 2024



Generative AI : A possible way forward
What we have learnt after one year with our clients

- Monthly TV/radio program on BFM Business in France

“En Quête d’IA”

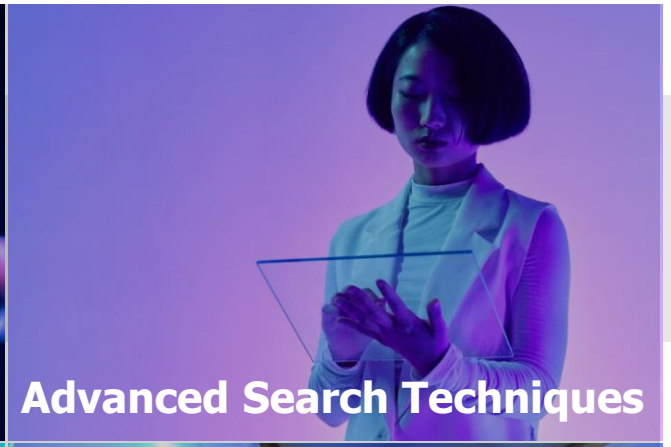
- Numerous press articles on AI across Europe

- Partnerships with the main hyperscalers, as well as with sovereign or innovative AI players

With an ambitious transformation program around AI

The 4 Pillars of Sopra Steria RAISE program

Helping our customers exploit the potential of generative AI and equipping them with high value-added **solutions** through our end-to-end expertise.

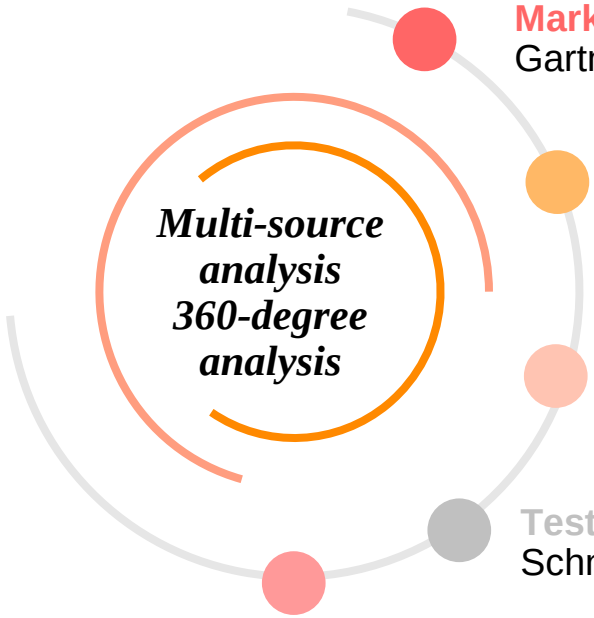


Offer our customers **intelligent assistants** wizards, by leveraging our existing **our existing assets** (Smart Search) and **LLMs** (demonstrators).

Rapidly integrate AI technologies into our software engineering businesses to increase **efficiency in both development and maintenance**.

Helping companies to **industrialize their AI systems responsibly** while ensuring that preparations are in place to meet ethical **ethical standards** and **regulatory standards**.

Navigating the AI Era: Methodological note



Market analyst reports
Gartner, Forrester, Precedence Research,...

The views of consultancy firms
Generalists: BCG, McKinsey, Bain,…
IT specialists: Accenture, Capgemini, IBM
AI specialists: Artefact, Ekimetrics,…

Publications from venture capital firms specialising in AI
Sequoia Capital, Andreessen Horowitz,...

Testimonials from Chief AI Officers or CIOs
Schneider, Michelin, Wells Fargo,...

Experiences shared by Sopra Steria experts
4,000 Data & AI specialists and 500 AI experts

A 3-step approach

1

State of the AI market
- Reconstruction of the size of the AI market to 2023 by technology
- Market structure as seen by suppliers and consumer industries

2

Market structure and forecast to 2028
- Structuring the world of AI into 4 main archetypes
- Analysis of major market trends and drivers by archetype
- Market size projected to 2028

3

Recommendations for scale-up
- Key success factors
- Feedback from companies that have successfully deployed trustworthy AI

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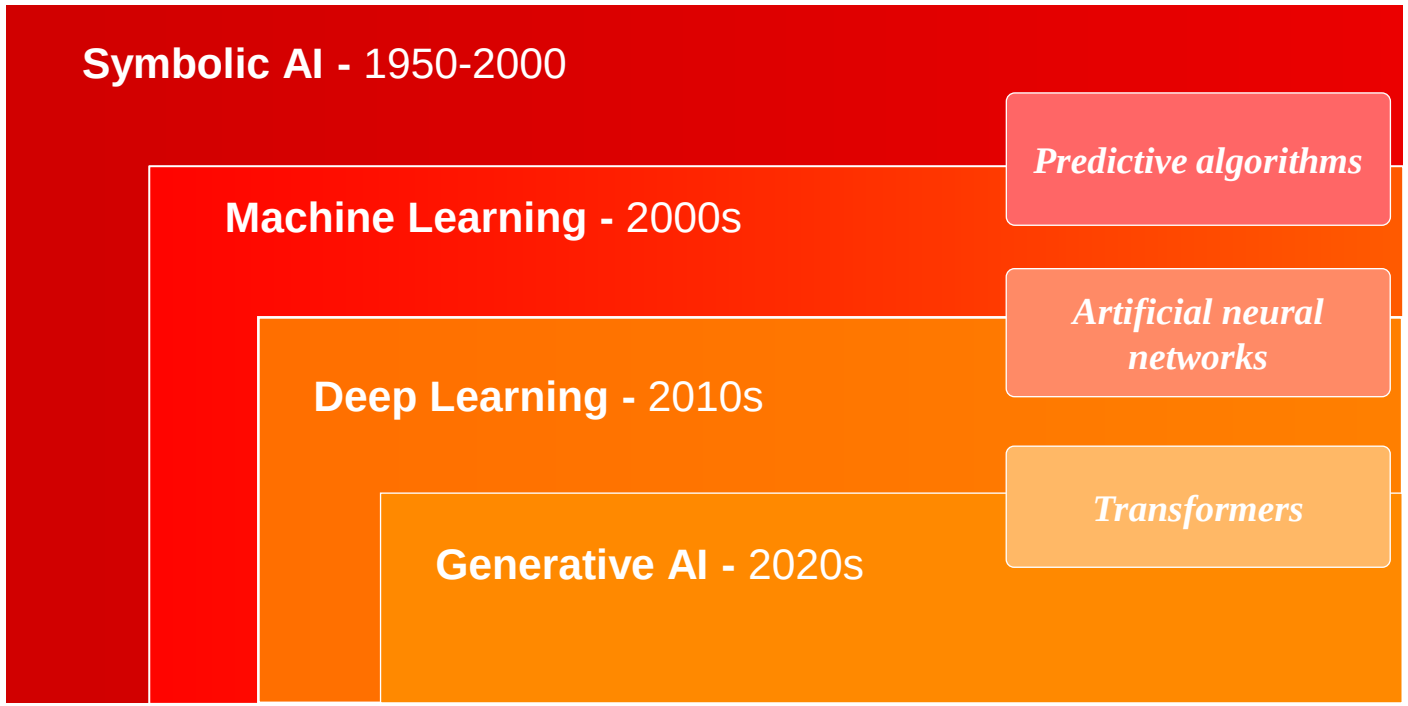
Have we entered the golden age of AI?
A massive acceleration in AI since 2010, like never before, has paved the way for to generative AI



Reproduce experts' reasoning

Analyze and predict faster than me

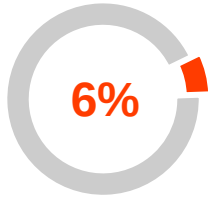
Recognize and classify for me

Discuss and create with me

Since 2010 :

- ***x50*** terabytes of data → Data accessibility
- ***x30*** MIPS per microprocessor → Continuous improvement in processing performance
- ***x200*** petaflops per GPU (graphics processing unit) → Mathematical computing capacity

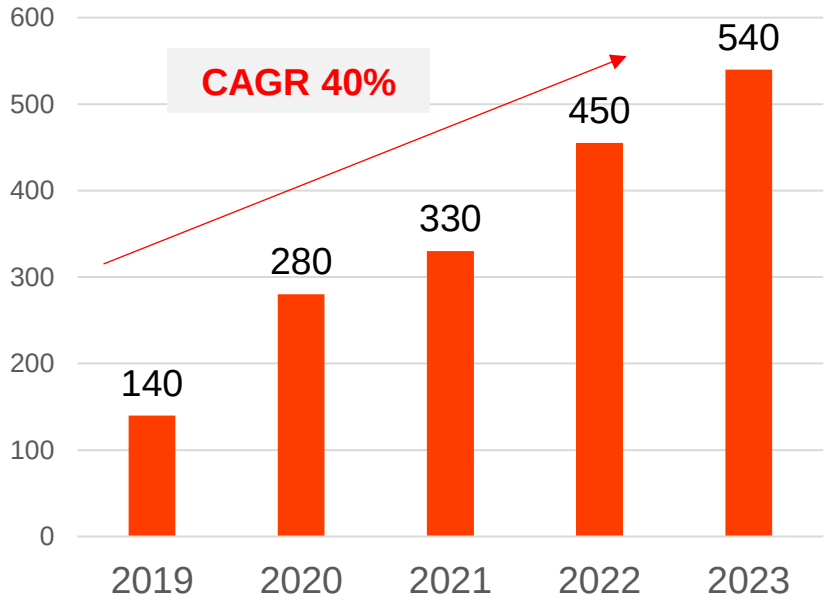
The AI market has quadrupled during the last 4 years and now represents 6% of all IT spending worldwide



Share of AI in the global IT sector in 2023

40%: average annual growth of the total AI market

Size of the global AI market ($bn)



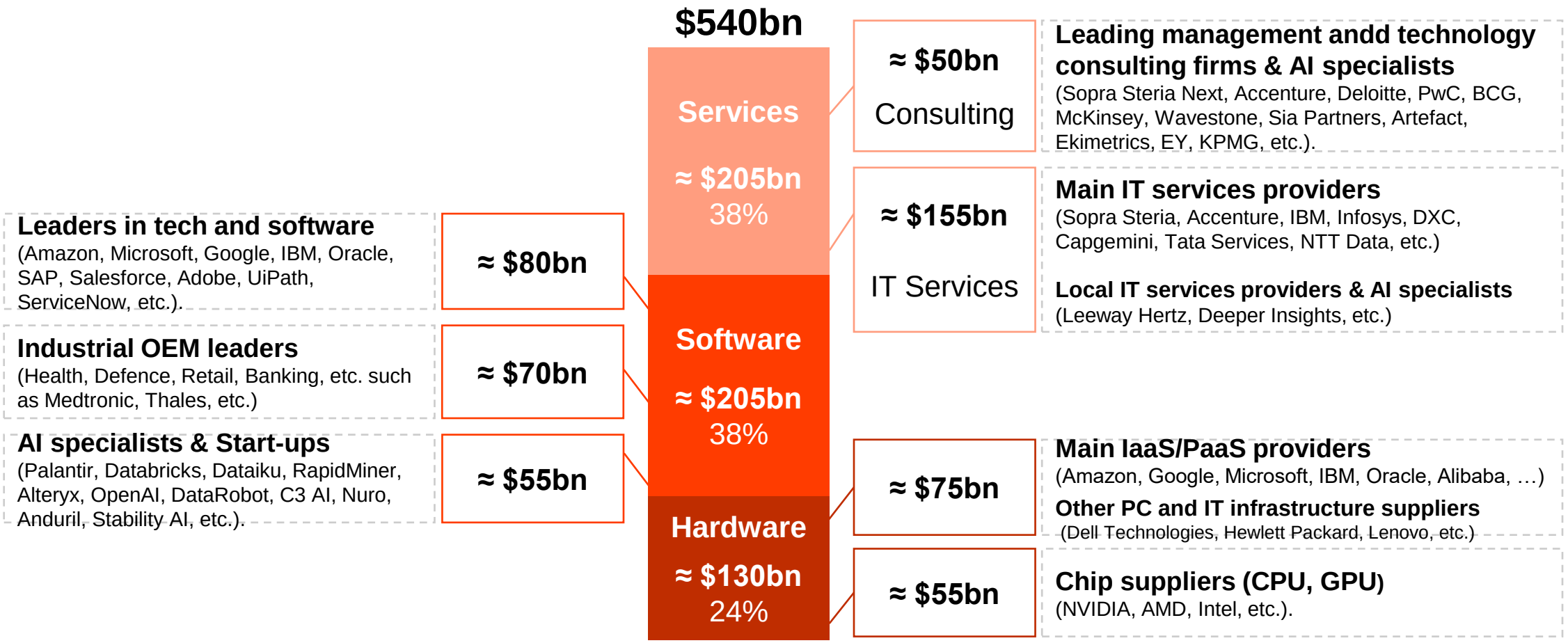
45%: share of the top 3 industries: Financial Services, Healthcare and Telecoms & Media

Breakdown of the AI market by sector in 2023 ($bn)

Sector of activity	CA
Financial services	**87**
Health	**76**
Telecoms & media	**75**
Transport & logistics	55
Retail	52
Manufacturing industry	52
Agriculture	34
Professional services	19
Other	90

Sopra Steria Next analysis / Source: Precedence Research, Gartner, The Business Research Company

AI has become a veritable tech industry, with all families of tech players



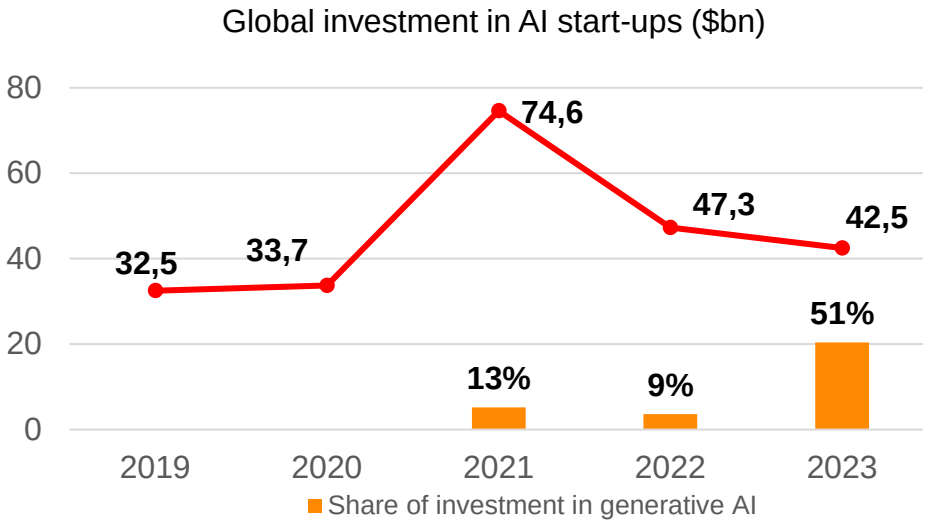
Size of the AI market in 2023

Non-exhaustive list / Analysis: Sopra Steria Next / Source: Gartner, Precedence Research, Grand View Research, Press and Operators

The development of AI is being driven by ongoing investment from VCs, amplified since 2023 by BigTech's appetite for GenAI

Share of AI in venture capital investments in 2023 : **18%**

$230bn *invested in AI start-ups since 2019*



Mobility and autonomous vehicles

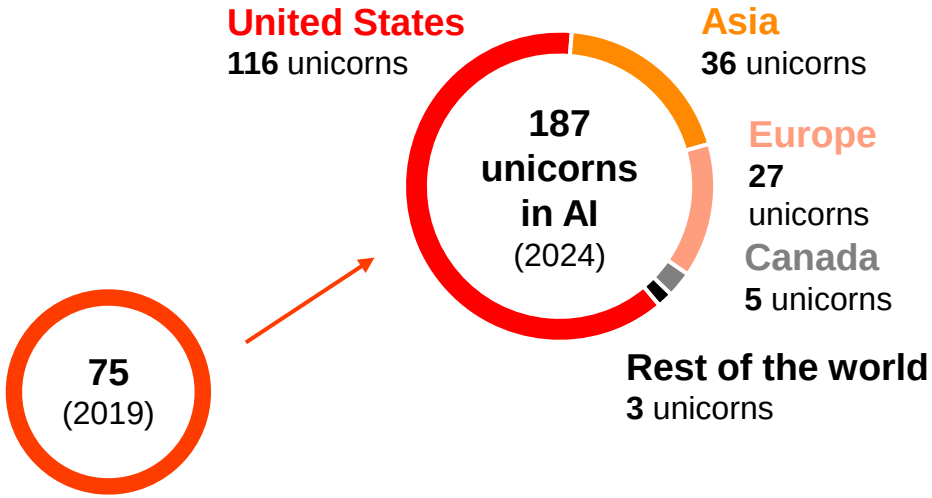
Health

Financial services

IT Infrastructure

Generative AI

Nearly 200 unicorns today, mainly in the United States



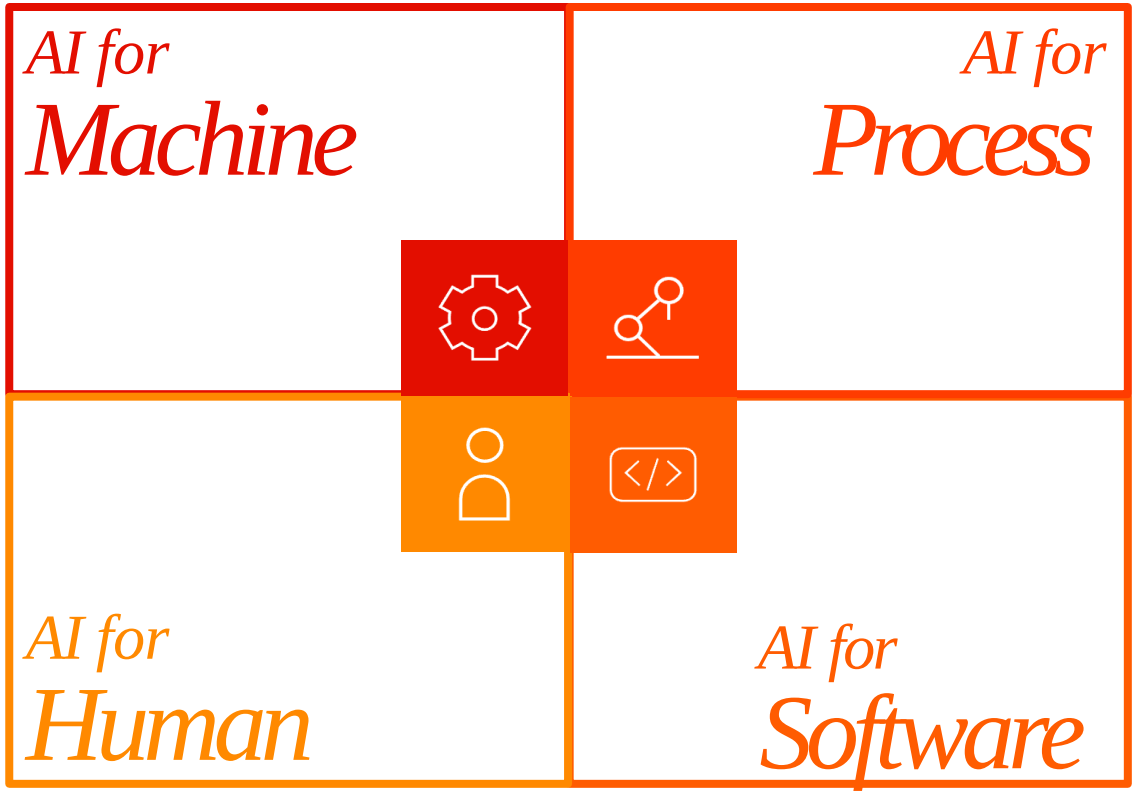
Analysis: Sopra Steria Next / Source: CB Insights, Statista, Crunchbase, PitchBook

We structure the AI world in 4 Archetypes, each focused on one business purpose, to bring business clarity to Cx0s in their investment decisions

What CxOs have to cope with :

- Several AI technologies that can worked independently or can be combined
- Dozens, if not hundreds, of use cases per industry or functions
- A vast range of providers from Big Techs to start-ups
- A massive and everyday changing AI buzz

Our 4 AI Archetypes



The 4 archetypes: what uses? what solutions?

AI for Machine

Operate more and more intelligently machines, factories and entire supply chains, thanks to digital twins connected in the industrial metaverse

AI for Process

Automate further administrative activities with the emergence of Intelligent process automation platform aggregating the various solutions

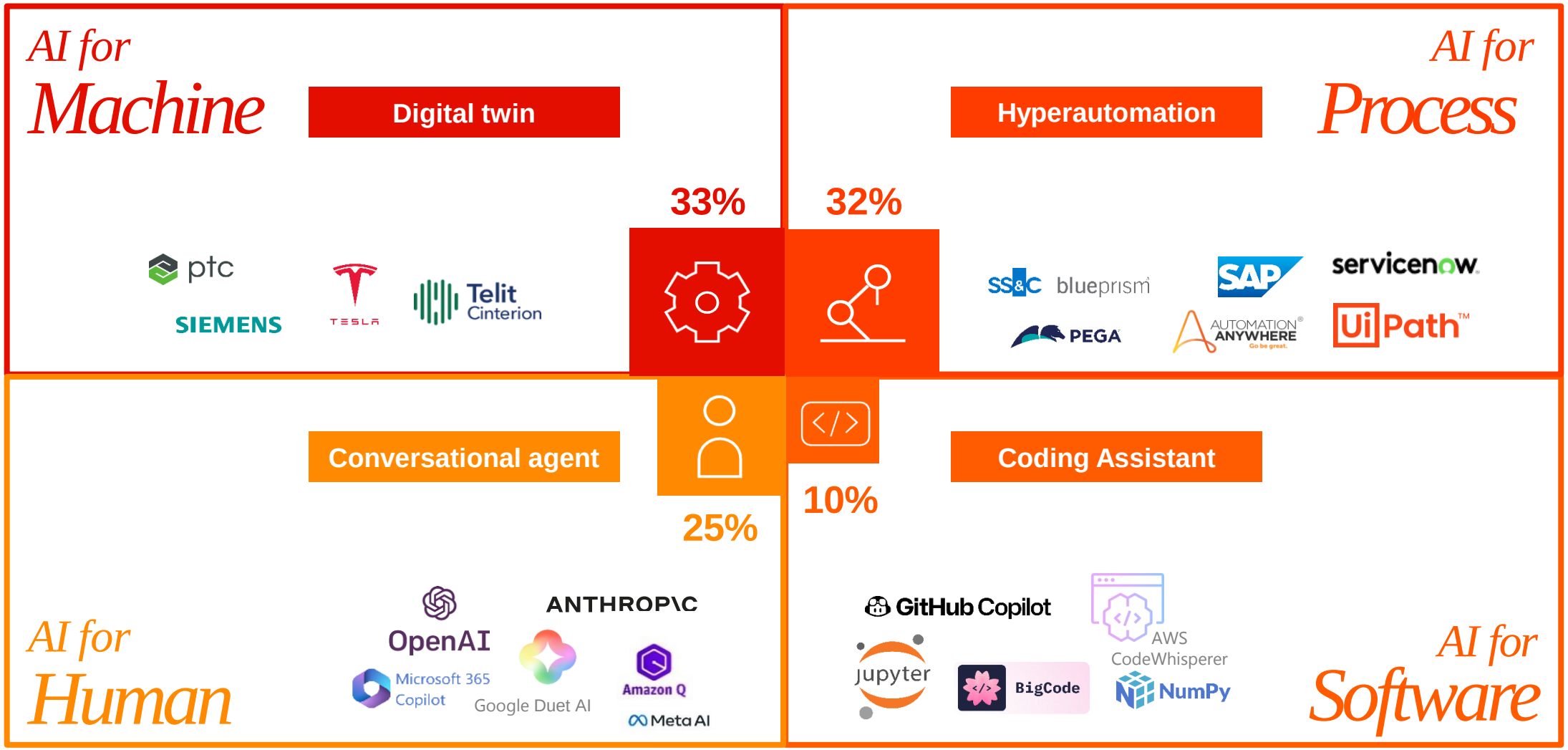
Support employees or clients with virtual assistants and decision support algorithms for better and faster draft answers

AI for Human

Assist IT organizations in reaching the next level of automation of everything that affects the entire chain of IT development and run

AI for Software

The 4 archetypes: what uses? what solutions?



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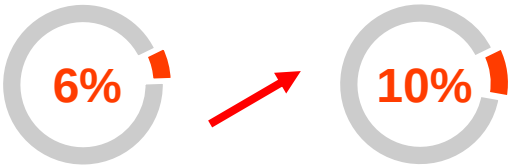
We project that the AI market will grow 3 times faster than the overall tech market

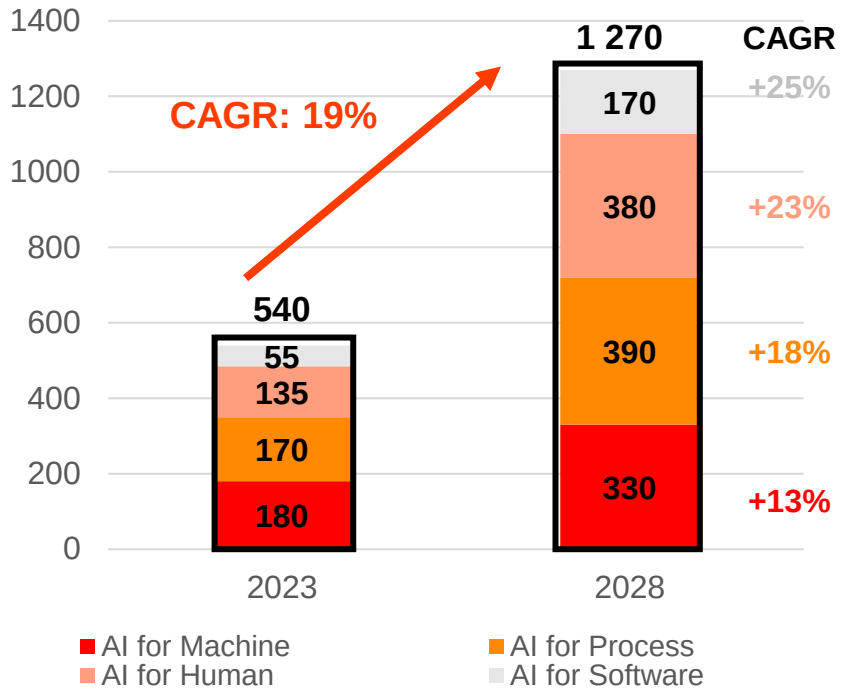
By 2028, AI will account for 10% of global IT spending



Share of AI in global IT spending

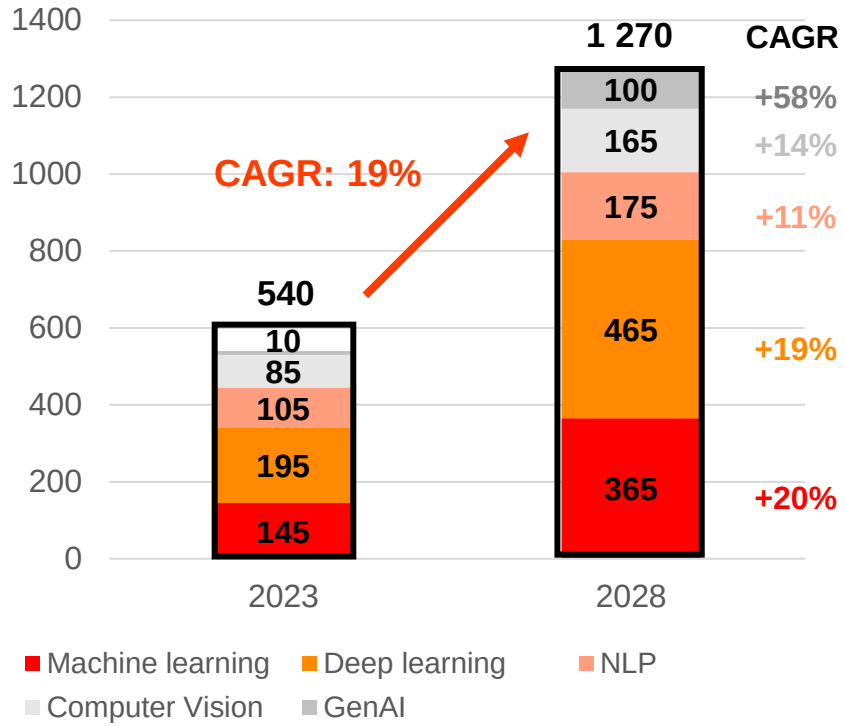
Projection by main archetype ...

From 2023 to 2028 ($bn)



... and by technology

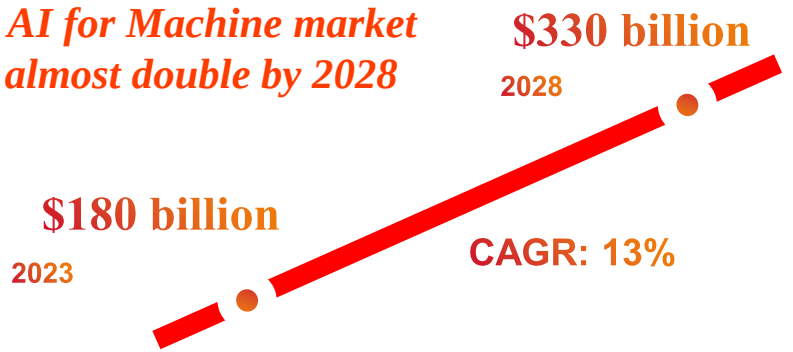
From 2023 to 2028 ($bn)



Analysis Sopra Steria Next / Source: Precedence Research, Gartner, The Business Research Company

AI for Machine
Unlocking intelligent machine operations with industrial metaverse and computer vision

The AI for Machine market will almost double by 2028



Main applications

Mobility
- Autonomous vehicle
- Embedded services
- Assistance systems

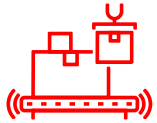
Manufacturing
- Production simulation & Optimization
- Predictive maintenance
- Automated quality control

Security
- Image enhancement
- Object recognition
- Anonymous tracking

Real Estate
- Building automation system
- Smart devices
- Virtual assistants

AI for Machine
Beyond the digital twin, integrating AI into the industrial metaverse will redefine the industry of the future

The main uses of industrial metaverse will be improved by AI and GenAI



Optimizing plant layout, or retrofitting existing production environment

thanks to the aggregation of 3D, business and IoT assets analyzed using AI

Support for the simulation of production and plant configuration

using models and supervised learning in the virtual world to optimize the real world

Optimization of production processes

thanks to the analysis of large quantities of data by AI models and the optimization of robots through supervised learning

Support for product design and creation of 3D simulation tools

thanks to GenAI fed by the company's repositories, assets and KM

Key figures and expected gains

- **$100bn**
  World market for industrial metaverse in 2030
- **70%**
  Reducing product design costs using industrial metavers
- **56%**
  Reduction of time to production launch
- **30% to 50%**
  Lesser machine downtime through predictive maintenance

Source: World Economic Forum, McKinsey

AI for Process
AI development is reshuffling the cards in the process automation market

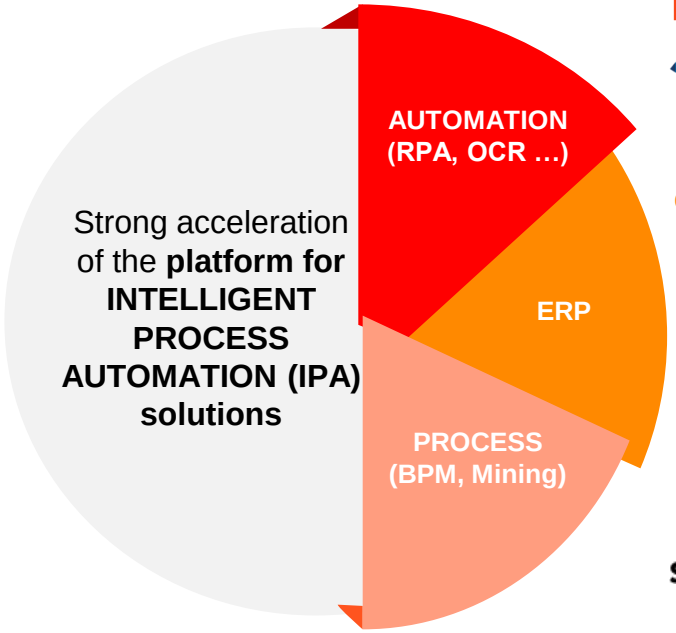
The AI for Pricess market will more than double by 2028

$390 billion
2028

$170 billion
2023

CAGR: 18%

Convergence towards integrated Intelligent Process Automation platforms



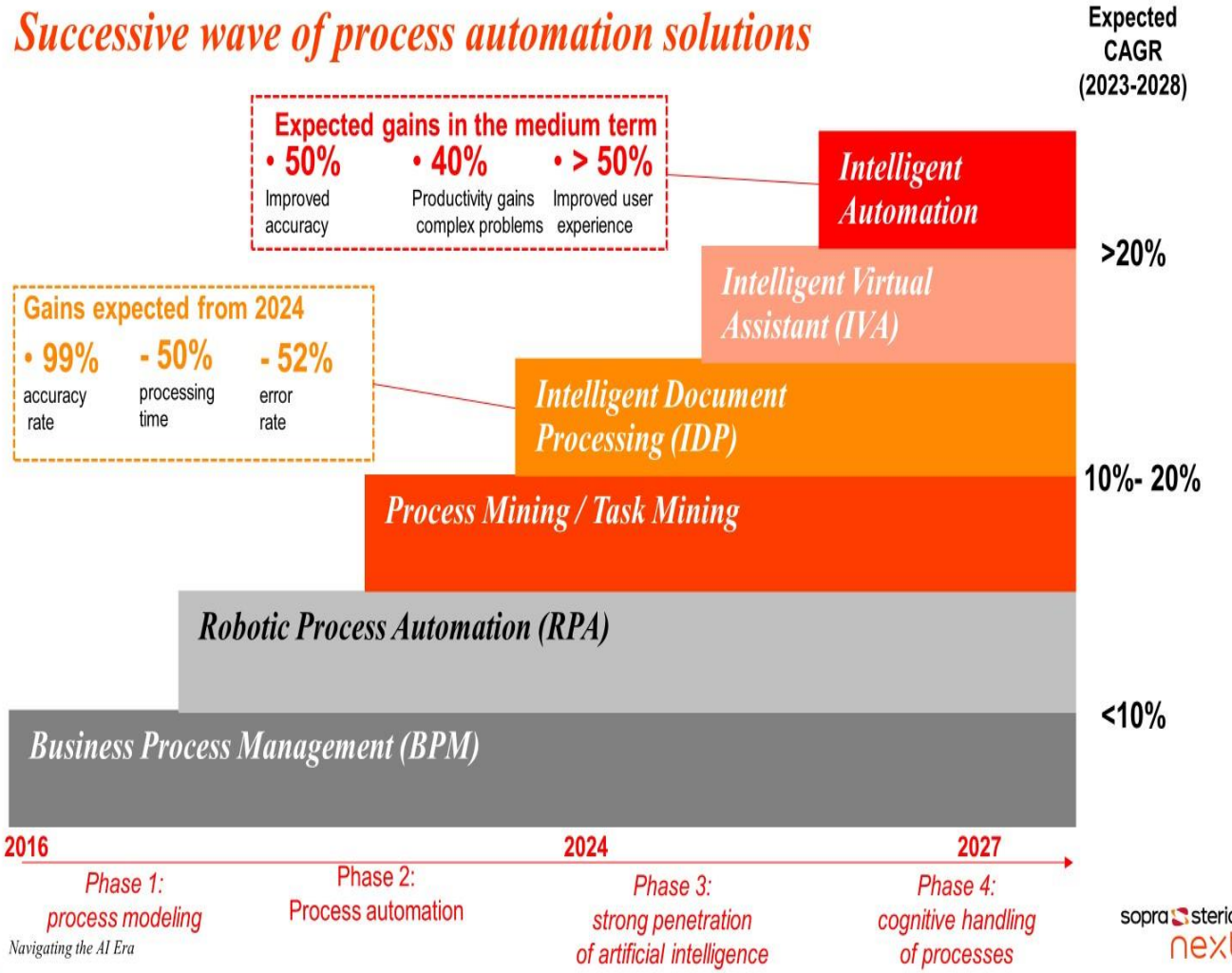
UiPath
blueprism
AUTOMATION ANYWHERE

Cloud Leaders
Google Cloud
IBM Cloud
Microsoft Azure
aws

Software leaders ERP and CRM
SAP
ORACLE
salesforce

servicenow
PEGA
celonis

Successive wave of process automation solutions



AI for Human
GenAI opens new horizons in content creation, knowledge management and customer service

The AI for Human market will triple in 4 years

3 main business applications

1

Enhanced customer service

- Customer empowerment (self-service)
- Improved customer experience (availability, faster resolution, better recommendations)
- Increased agent

2

Improved knowledge management

- Improved search functions
- Automated generation of summaries, reports, etc.
- Increased volume of data available

3

Augmented creation

- Automated content generation (emails, marketing campaigns, …)
- Hyper-personalization of content
- Support for R&D and product creation (simulation, testing)

AI for Human
With GenAI, a 2nd AI wave of contact center transformation is under way to deliver enhanced customer service and productivity gains

1 *Enhanced customer service*

A paradigm shift in customer service thanks to AI

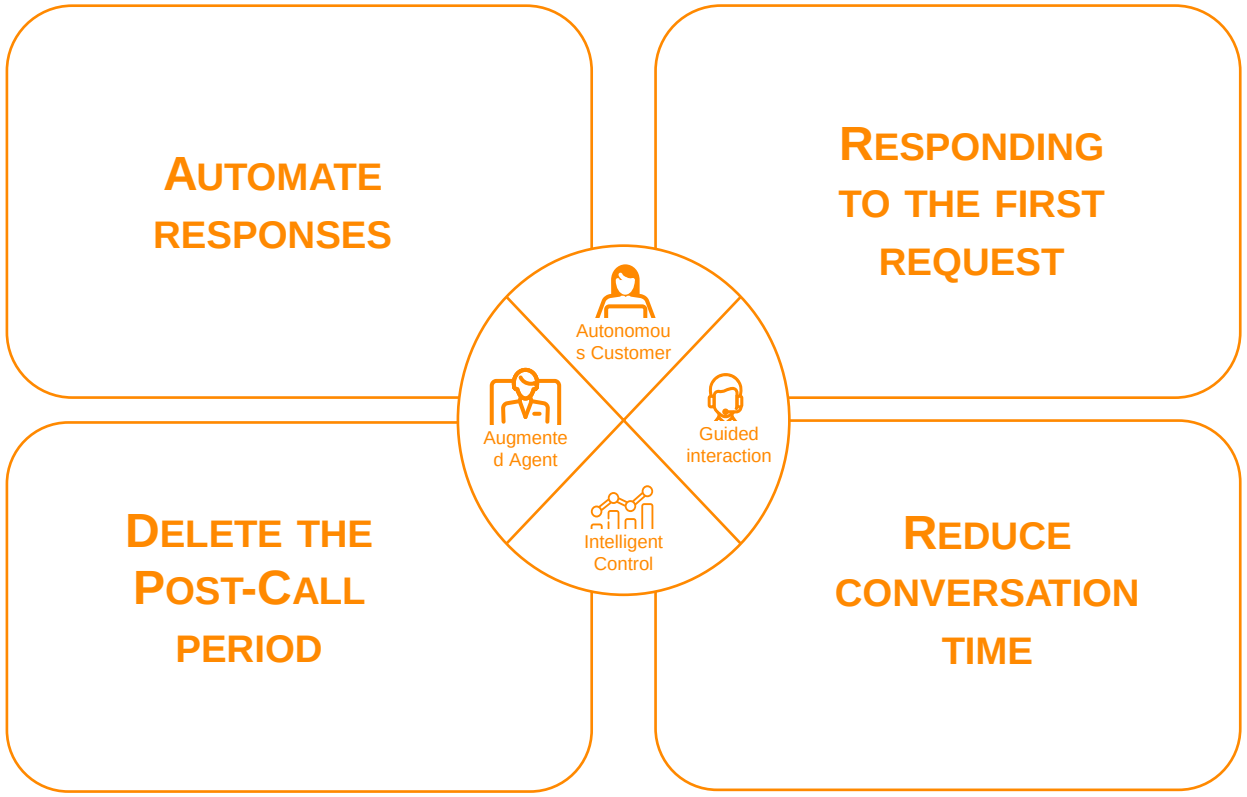


Illustration:

Klarna. OpenAI

- **2.3 millions conversations handled,**
- **2/3 of customer service requests handled**
- **25% reduction in repeated queries**
- **Average response time reduced by 5.5**

Sopra Steria Next has tested more than 20 GenAI use cases for customer service in the areas of self-service, customer-agent interaction and augmented agents.

AI for Human
GenAI brings a major advance in terms of efficiency and quality of service for conversational assistants

Enhanced customer service 1

Making conversational AI accessible to the hard of hearing and deaf mutes

IRIS Signbot

A multilingual conversational sign language assistant developed in collaboration with IBM and IVèS start-up

Other projects we have worked on with our nAIxus platform

naixus

aife

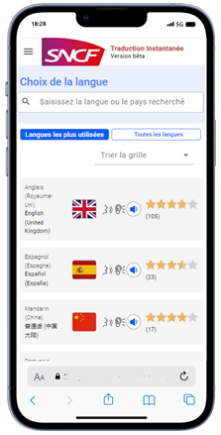
200k Conversations / month
82% Automated conversations

Direction Générale des Finances Publiques

480k Conversations / month
50% Automated conversations

Adapting AI solutions to the context of agents and securing exchanges

Easy access
Simple
Intuitive
Personalized
Robust



TradSNCF

Sopra Steria Next's conversational tool enabling a dialogue between an agent and a passenger in 130 languages

6 months to develop the solution

3,000 railway-specific terms integrated into the tool

50,000 customer service agents will be equipped

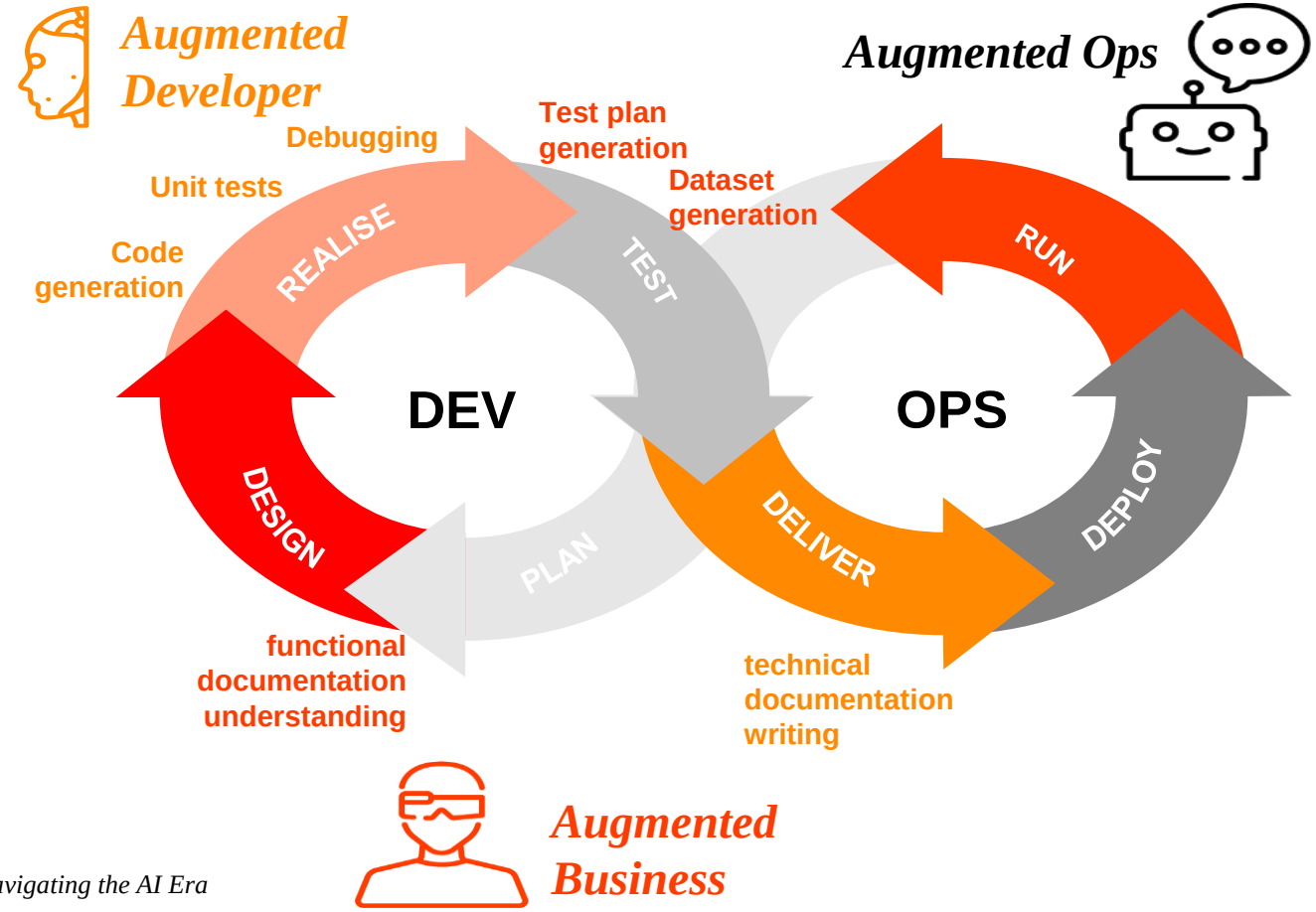
80 millions foreign tourists can be assisted each year

sopra steria next

AI for Software
GenAI is starting to revolutionize the full software development chain

The AI for Software market will triple by 2028

We already experimented that AI assists techs on creativity, tasks automation and quality enhancement



Deployed at scale to 3.000 developers

PRODUCTIVITY
7% to 10%
Cost reduction

QUALITY
10% to 40%
Fewer bugs

HR ENGAGEMENT
90%+
Adoption

AI for Software
AI : tomorrow, towards full IT strategy transformation

To face the challenge of IT Department...

- **Management of IT legacy**
- **Agilisation of evolution**
- **Anticpation of new security risks**

... Augmented CIO to power the transformation

- **CTO Assistant**
- **CIO Assistant**
- **Urbanist / architect assistant**,
- **Business (owners or users) assistant**
- **Cybersecurity assistant**,

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Escaping the curse of never deployed POCs
What are the challenges to successfully industrialize AI?

Where and how much to invest for what value?

Devote 70% to 80% of your investment to proven use cases that can be deployed within the next 18 months. Reserve 20% to 30% for exploratory use cases.

Invest in predictive and generative AI to make the most of their complementary nature and solve complex problems

What industrial model for managing data & AI?

Integrate the processing of unstructured data into the data management system and **enrich databases** by generating **synthetic data**

Use AI to improve data quality (classification, completeness, discrepancies, etc.)

How to industrialize AI POCs?

Select the right AI technology/solution to move into production based on 360° performance, scalability, compatibility and compliance

Build and **execute your AI@scale roadmap** around 12 building blocks and **define your AI factory model based on your culture and maturity**

How to solve the people / talent equation to scale AI?

Train in each business/function department a core team of **"AI for business" ambassador**s able to be the **interface** between their colleagues and AI tech experts developing the AI solutions

Define and execute your **AI tech talent strategy** to secure the sourcing of the various AI profiles : upskilling, hiring partnering

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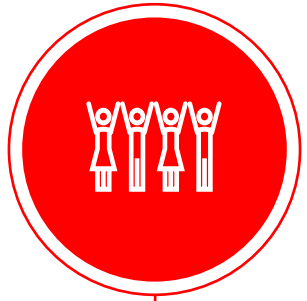

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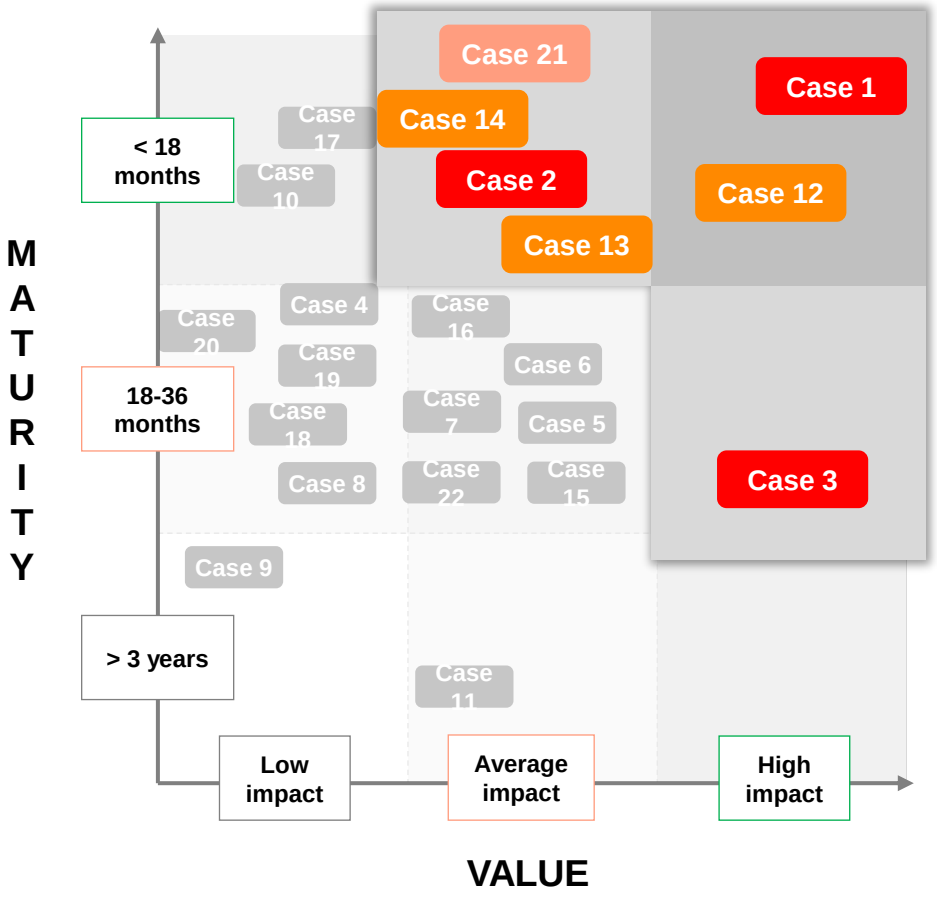
Where to invest for deploying AI? - Top-down view
Patterns of AI investment per main industry

	AI for Machine	AI for Process	AI for Human	AI for Software
Transport & logistics	> 30%	20% à 30%	20% à 30%	< 10%
Health	> 30%	10% à 20%	> 30%	< 10%
Manufacturing industry	> 30%	10% à 20%	20% à 30%	10% à 20%
Energy	> 30%	10% à 20%	20% à 30%	10% à 20%
Defense & security	> 30%	< 10%	10% à 20%	20% à 30%
Retail	20% à 30%	> 30%	20% à 30%	< 10%
Aeronautics and space	20% à 30%	20% à 30%	20% à 30%	10% à 20%
Financial Services	< 10%	> 30%	> 30%	20% à 30%
Public administrations	< 10%	> 30%	> 30%	10% à 20%
Professional services	< 10%	20% à 30%	> 30%	> 30%
Telco, Media & Entertainment	< 10%	20% à 30%	> 30%	20% à 30%

Legend: weight of each archetype by industry — < 10% — 10% à 20% — 20% à 30% — > 30%

Where to invest for deploying AI? - Bottom-up view
Priority AI use cases to deploy in Financial Services (illustration)



AI for Process	
Case 1	**Synthetic credit data**
Case 2	**Banking fraud prevention**
Case 3	**Product pricing & testing**
Case 4	AML Compliance & reporting
Case 5	Loans processing
Case 6	Customer churn prevention
Case 7	Threat detection & forensics
Case 8	Branch space redesign
Case 9	Payment exception processing
Case 10	Customer authentication
Case 11	Banking operations redesign

AI for Human	
Case 12	**Frontline AI Cowpilot**
Case 13	**Personalized marketing content**
Case 14	**Product recommendation**
Case 15	AI financial coach
Case 16	Avatars/virtual financial influencers
Case 17	Banking contact center assistant
Case 18	Treasury management copilot
Case 19	Debt collection & recovery assistant
Case 20	Bank workflow copilot

AI for Software	
Case 21	**Code Conversion & Generation**
Case 22	IT root cause analysis

NB: Full list of identified use cases available in appendices / Analysis: Sopra Steria Next

Invest now in the enablers of AI deployment : data and talent

Example of using AI to improve data quality
Example of a French bank

- **An AI solution to help operators detect anomalies** in new contracts before send it to ECB
- The model **identifies anomalies** and **highlights abnormal variables** for operators to correct

An AI model trained on 30 months of historical data

Results presentation via PowerBI for end users

A 33% time saving per operator & per month for anomaly processing

AI Talent strategy - 5 calls for action
Illustrations from our client work

All employees

AI e-learning program

- 12 weekly episodes/20min each
- 1 AI-specific theme per episode
- Badge-based validation system

AI business ambassadors

Advanced training content

- 1-week initial training
- 1-additional day per quarter
- Organized by communities of business functions

Build/Co-Operate/Transfer partnership for an AI Factory:
- Day 1: 30 FTE o.w.10 internal -> Day 365 : 60 FTE o.w. 1/3 internal -> Day 1000 : 100 FTE o.W 2/3 internal

User board to drive progressive adoption
- Specialized board per function made up of advanced users
- In charge of best practice/user experience sharing as well as steering the use-case deployment roadmap

Creation of AI-specific roles:
Chief AI officer, Trustworthy AI lead, AI compliance officer, …

How can AI POCs be industrialized?

Select the right algorithm to move into production

4 selection dimensions

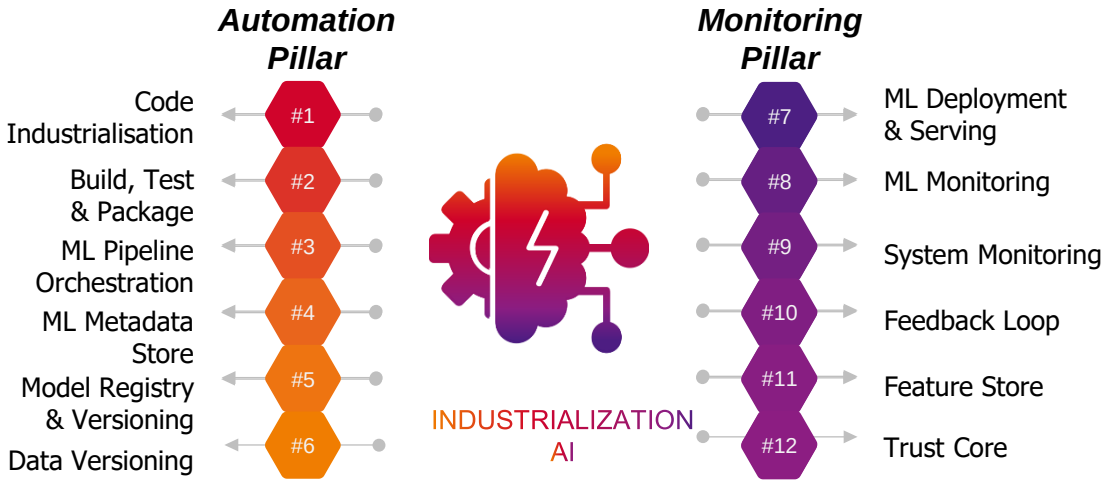
- 360° Performance
- Evolutivity
- Compatibility
- Compliance

Move into Production by incrementally deploying the right building blocks

An holistic industrialization roadmap over 3 time horizons

… Articulated around 12 building blocks for AI@Scale

Sopra Steria Next mehodology



How can the AI solutions be sustained over time? Growing maturity and evolving set-up at the AI Factory of a French public sector player

Rapid deployment - Exploratory AI

- Quick identification of quick wins
- Deployment of first supervised AI algorithms in production

EXPERIMENTAL APPROACH

(5 FTES)

A team of data scientists from the IT department tests initial uses

Scaling up - Industrial AI

- Proposal for a standardized framework, defining good practices and tools to be used
- Involving BUs in governance and identifying use cases
- First communication and acculturation projects

CENTRALISED APPROACH

(50 FTES)

- *Supervision of 100% of AI use cases*
- *Key result: time to production of an algorithm: 9 months → **2 weeks***

Bringing life over time - Impact AI

- Sectors are free to develop their own use cases within the defined framework
- Strengthening the impact of AI and positioning it at the heart of products and services

FEDERAL MODEL

(60 FTES)

Each Business Line has its own end-to-end teams within the AI Factory

Navigating the AI era - Key recommendations for business and tech leaders

➢ Be aware

- ✓ AI is growing **3x faster** than the overall tech market.
- ✓ Soon **10%+ of your overall IT budget** shall be dedicated to AI and its potential to reinvent businesses
- ✓ Adopt a **strategic AI compass** to avoid blind spots and transform AI from a technological challenge into a real lever of business reinvention. **4 « AI for Business » archetypes** :

1. ***AI for Machine***
   to operate more and more intelligently machines, but also entire factories and supply chains
2. ***AI for Process***
   to further automate administrative activities with the emergence of fully articulated IPA platform
3. ***AI for Human***
   to support employees or clients with virtual assistants and decision support algorithms
4. ***AI for Software***
   to assist IT organizations in reaching the next automation level of IT development and run

Navigating the AI era - Key recommendations for business and tech leaders

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1. AI for Machine 2. AI for Process 3. AI for Human 4. AI for Software

➢ Aim for impact

- ✓ Mobilize you organization to **scale-up AI and deliver tangible value** :
  - ➢ **only 1 out of 7 algorithm perfoms well when in production**
  1. Focus 75%+ of your AI budget on **priority use cases** mature for industrialization
  2. Invest now to upgrade your **data management / platform** to cope with the higher demands of AI technologies
  3. Start learning how to successfully land your AI algorithms in your **industrial IS processes**
  4. Secure the **sourcing of AI Tech talen**t and create an environment of trust and confidence for the **adoption of these new tools** by all employees, starting with your knowledge workers.

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➢ Be bold

- ✓ AI impact will start to become **material in P&Ls in 2025**

  2023: year of investigation - 2024 year of exploration - 2025 year of industrialization
- ✓ Succeeding in scaling-up AI will differentiate
  - ✓ **laggards still under the curse of never deployed POCs**
  - ✓ from the **future winners able to activate AI reinvention potential.**

Navigating the AI era - Key recommendations for business and tech leaders

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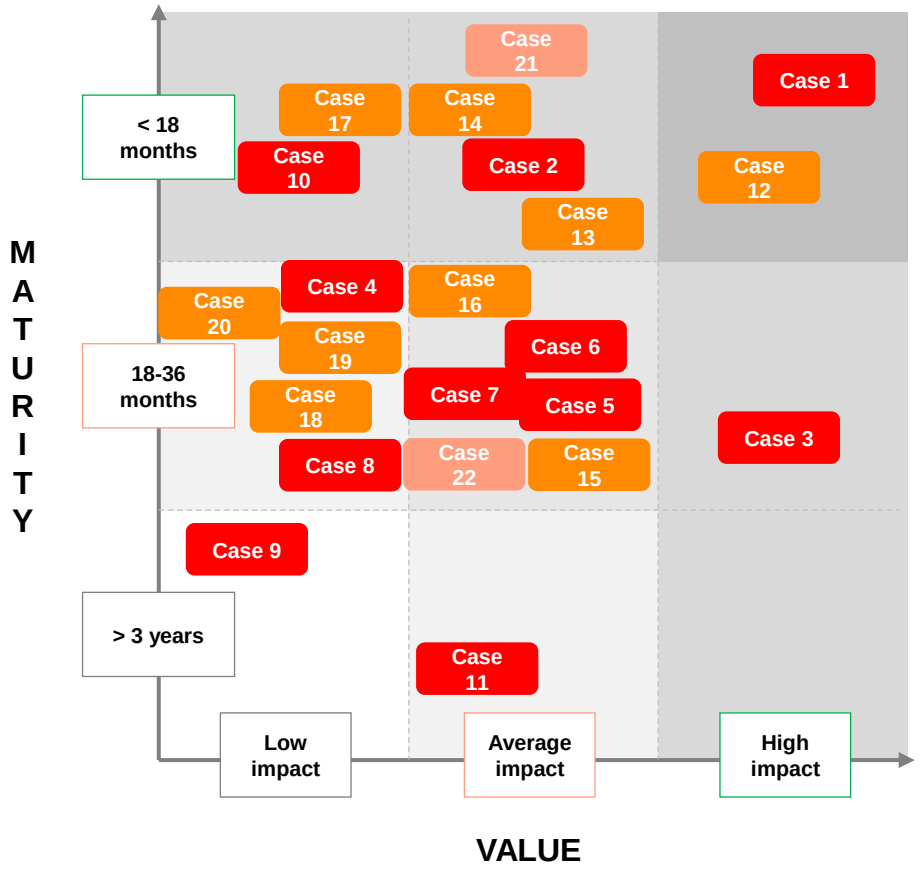
AI use case portfolio for Financial Services



AI for Process

Case 1	Synthetic credit data
Case 2	Banking fraud prevention
Case 3	Embedded banking product pricing & testing
Case 4	AML Compliance & reporting
Case 5	Loans processing
Case 6	Customer churn prevention
Case 7	Threat detection & forensics
Case 8	Branch space redesign
Case 9	Payments exception processing
Case 10	Banking customer authentification
Case 11	Banking operations redesign

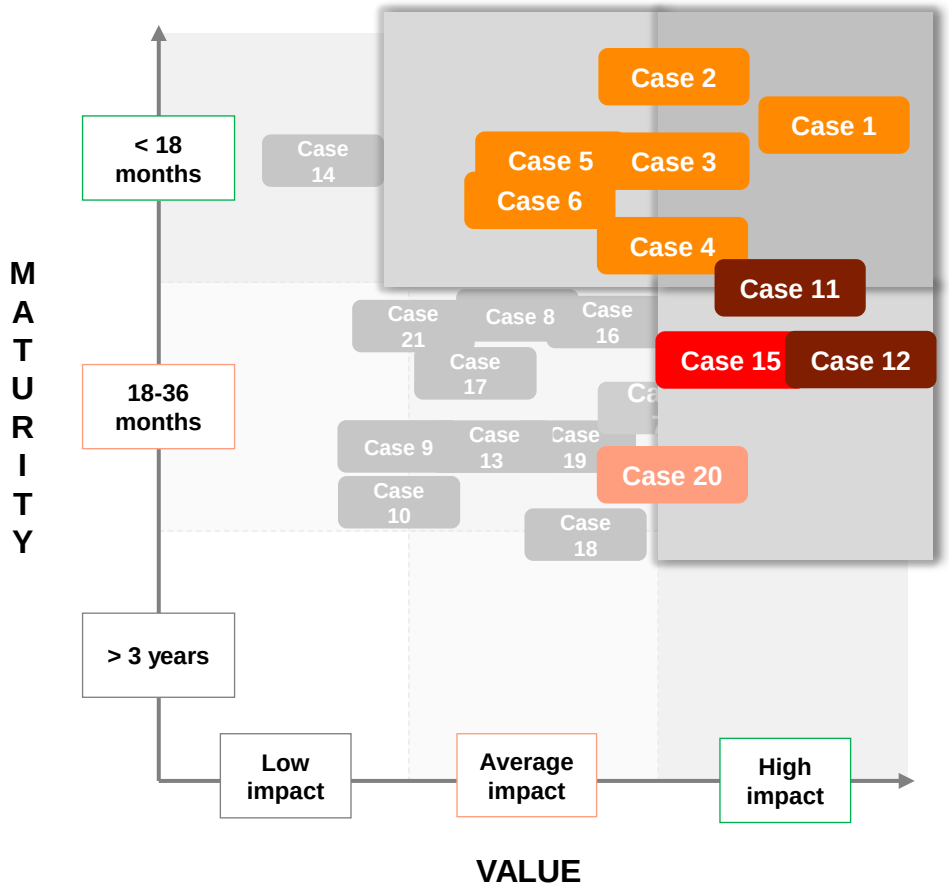
AI for Human

Case 12	Frontline AI Copilot
Case 13	Personalized marketing content
Case 14	Banking product recommendation assistant
Case 15	AI financial coach
Case 16	Avatars/virtual financial influencers
Case 17	Banking contact center assistant
Case 18	Treasury management copilot
Case 19	Debt collection & recovery assistant
Case 20	Bank workflow copilot

AI for Software

Case 21	Code Conversion & Generation
Case 22	IT root cause analysis

Where to invest for deploying AI?
Bottom-up view: Priority AI use cases to deploy in Manufacturing



AI for Human — Cases 1 to 10

Case 1 — Data insights

Insights analysis and scaling by LLM from internal and external unstructured data and enhance advanced AI analytics for process optimization.

Case 2 — AI image generation

Use of image-prompting GenAI and LLMs to quickly create unique and appealing visuals for new product and package design or for other content management.

Case 3 — Avatar generation

GenAI-created avatars enable brand interaction in metaverses, fostering direct-to-avatar marketing and new customer engagement.

Case 4 — Mechanical design optimization

GenAI design iterations optimise mechanical components, speeding up product development and enhancing customer satisfaction.

Case 5 — Curated shopping & delivery

Use of customer conversations with LLM to support AI management of sentiment analysis, promotions and customer shopping.

Case 6 — Workforce training

GenAI assesses process efficiency, machine maintenance, and offers personalized recommendations for workers based on task specifics.

AI for Machine — Cases 11 to 14

Case 11 — Materials processing efficiency

Users utilize GenAI to analyze IoT sensor data (e.g., vibration, humidity, exterior temperature) for identifying process improvement opportunities.

Case 12 — Industrial equipment longevity

LLMs analyse environmental and usage data from IoT sensors and other sources to identify product quality issues and improvement opportunities.

AI for Process — Cases 15 to 19

Case 15 — Factory asset effectiveness

GenAI-supported process-mining system identifies production flow anomalies and areas for improvement, streamlining operations to reduce waste and non-value-added activities.

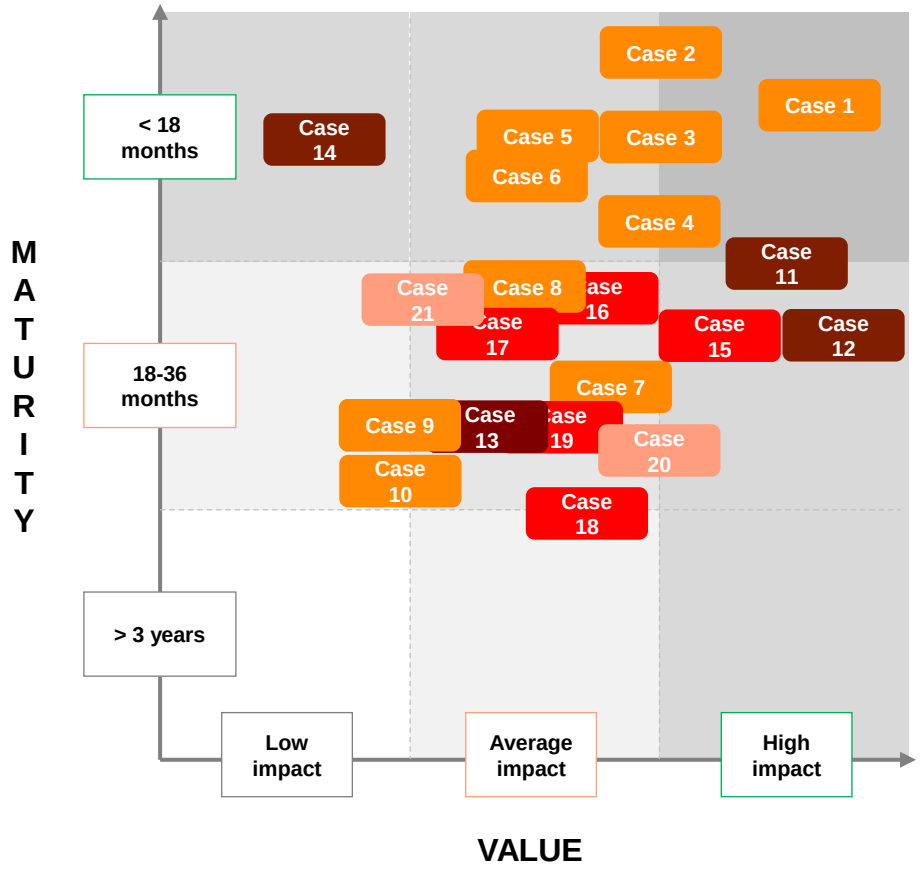
AI for Software — Cases 20 & 21

Case 20 — Synthetic data for AVs

Using LLM, GenAI synthesizes robust simulation data in varying volumes and types. Current limitations mean scenarios are often use-case-specific due to the challenge of generating sufficient volume for testing all variables.

NB: Full list of identified use cases available in appendices
Analysis: Sopra Steria Next

AI use case portfolio for Manufacturing



AI for Human

Case 1	Data insights
Case 2	AI image generation
Case 3	Avatar generation
Case 4	Mechanical design optimization
Case 5	Curated shopping and delivery
Case 6	Workforce training
Case 7	Guided machine maintenance
Case 8	Product development
Case 9	Workforce self-service
Case 10	Customer self-service

AI for Machine

Case 11	Materials processing efficiency
Case 12	Industrial equipment longevity
Case 13	Robots for hazardous conditions
Case 14	Visual quality

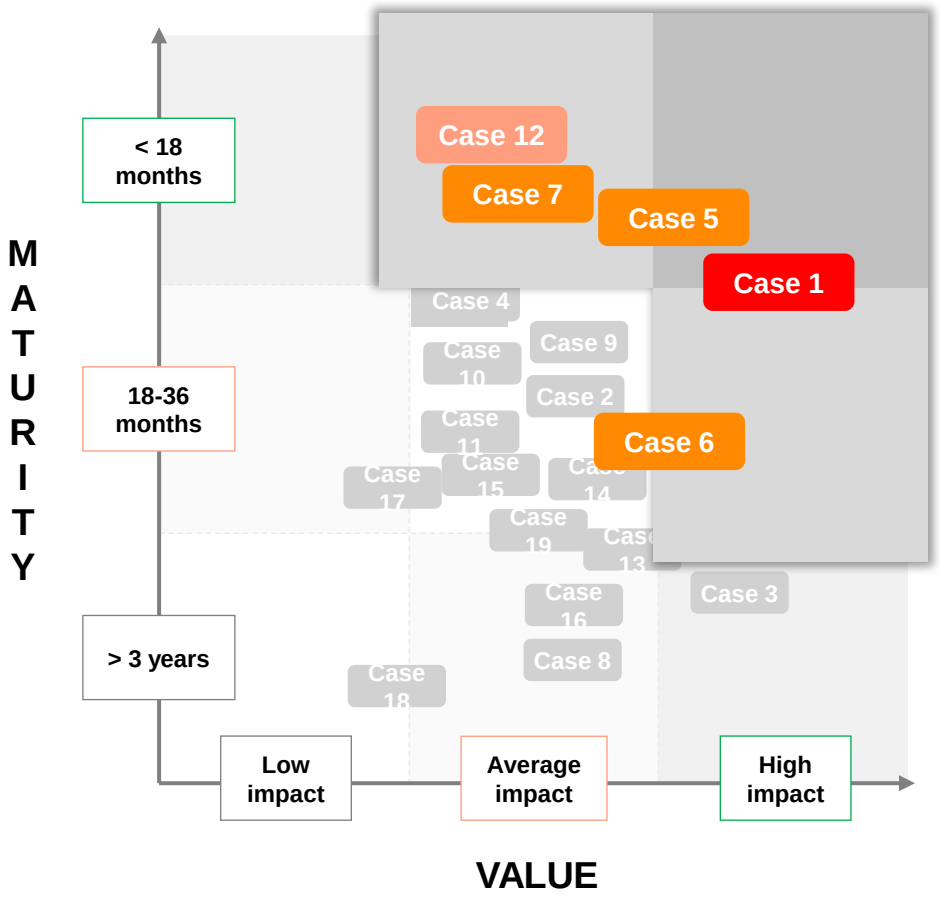
AI for Process

Case 15	Factory asset effectiveness
Case 16	Design-to-make process
Case 17	Product quality intelligence
Case 18	Supply chain optimization
Case 19	On-demand operations dashboard

AI for Software

Case 20	Synthetic data for AVs
Case 21	Software development

Where to invest for deploying AI?
Bottom-up view: Priority AI use cases to deploy in Transportation



AI for Process — Cases 1 to 4

Case 1 — Transit model planning

A GenAI-powered app helps transportation organizations create precise city or regional transportation models with minimal human input by analyzing complex data streams.

AI for Human — Cases 5 to 11

Case 5 — Passenger service / support

AI chatbots use GenAI to improve passenger experience, digital marketing, disruption management, and self-service rebooking for changed itineraries, using natural language inputs and outputs.

Case 6 — Travel planning

A GenAI LLM integrated into web search and map apps enhances travel planning efficiency by providing advanced natural language processing capabilities.

AI for Software — Cases 12 & 13

Case 12 — Automated code creation

Transportation companies can utilize GenAI to expedite software development or enhancement, helping them overcome legacy software obstacles more efficiently.

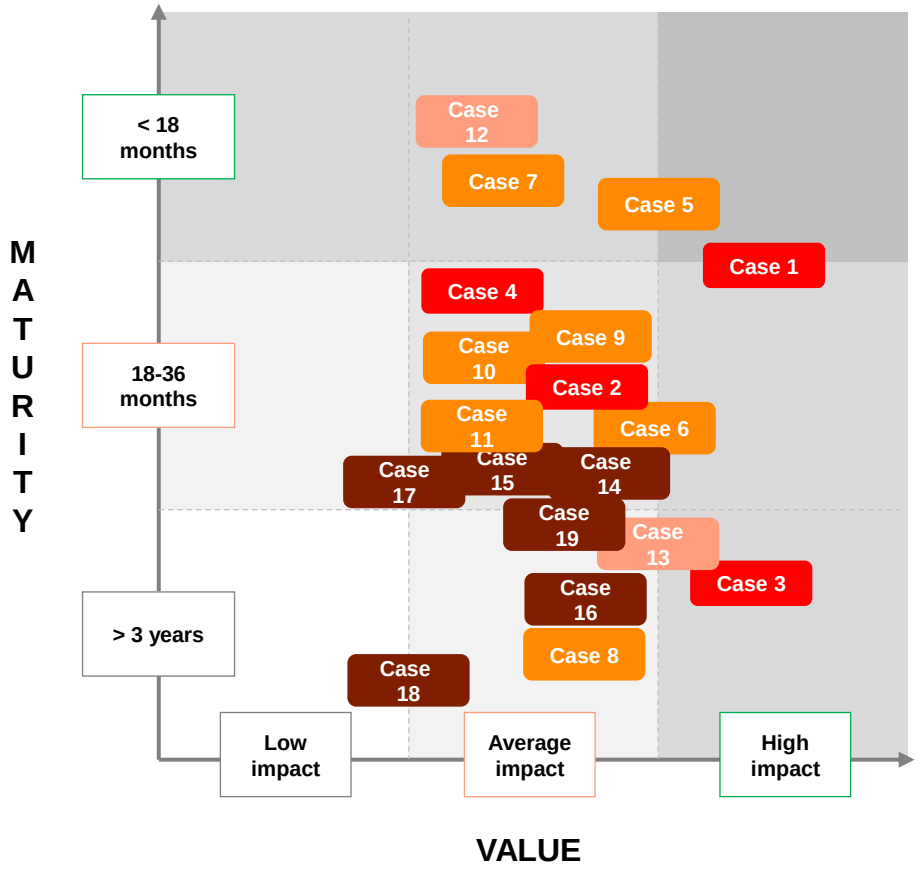
Case 7 — Passenger multilingual support

Phone apps for MaaS or trip planning can include advanced simultaneous translation, enabling travelers to easily ask for directions and understand instructions, with improved natural language processing via LLMs.

AI for Machine — Cases 14 to 19

NB: Full list of identified use cases available in appendices / Analysis: Sopra Steria Next

AI use case portfolio for Transportation



AI for Process

- Case 1 — Transit model planning
- Case 2 — Cargo scheduling
- Case 3 — Irregular operations management
- Case 4 — Maintenance log text recognition

AI for Human

- Case 5 — Passenger service and support
- Case 6 — Travel planning
- Case 7 — Passenger multilingual support
- Case 8 — Voice of customer analysis
- Case 9 — Data analytics self-service
- Case 10 — More-precise wayfinding
- Case 11 — Maintenance technician support

AI for Software

- Case 12 — Automated code creation
- Case 13 — Synthetic data for automation

AI for Machine

- Case 14 — Digital twin augmentation
- Case 15 — Condition-based maintenance
- Case 16 — Transport sustainability tracing
- Case 17 — Monitoring and surveillance
- Case 18 — Mass transit safety monitoring
- Case 19 — High-precision baggage screening