



GENERATIVE AI FOR UTILITIES REINVENTION

9th May 2024



Generative AI

What is it and what's the Value at Stake

The Gen AI Empowered Utilities

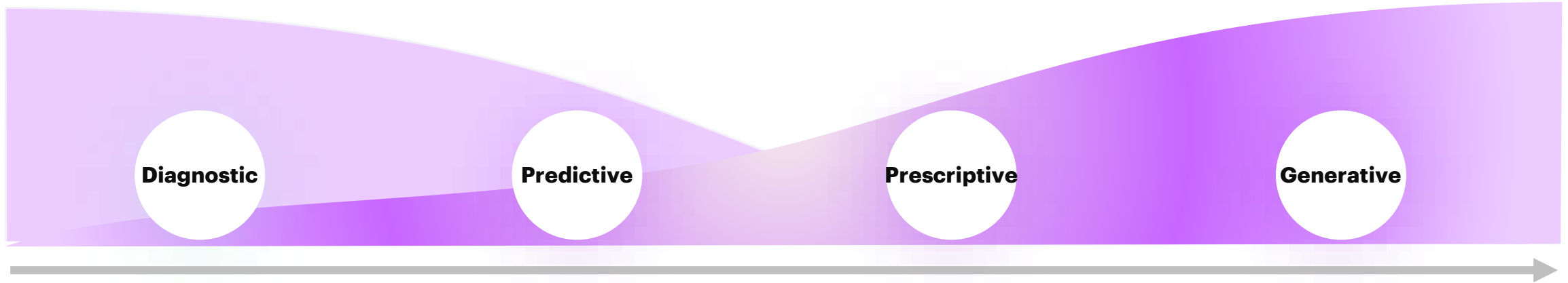
Reimagining through the lens of Gen AI















A Successful Gen AI Journey

4 key ingredients to fully unleash value

WHAT'S GENERATIVE AI?

Gen AI is the latest evolution in analytics and machine learning within the AI Continuum, able to understand contexts and generate new contents miming humans' creativity



Why did this happen?	What might happen in the future?	What should we do next?	How Gen AI can help with the execution?
Analyze 	Pattern 	Simulate 	Advise 
Scenario 	Forecast 	Optimize 	Create 
Segment 	Model 	Recommend 	Code 
			Automate 
			Protect 



WHY IS GEN AI DIFFERENT FROM OTHER INNOVATIONS?

Gen AI is booming and is showing some peculiarities that proves it is going to radically transform ways of working, business models and the society

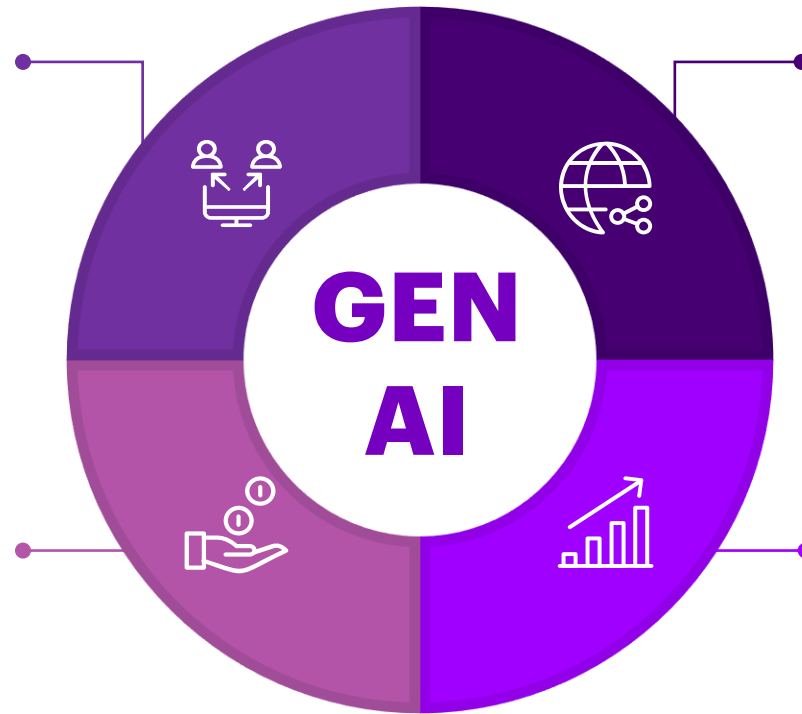
MASSIVE IMMEDIATE USAGE¹

Thanks to incredibly easy access and utilization, ChatGPT (OpenAI) is estimated to have reached **100 million monthly active users** just two months after launch (January 2023), 180 million in April 2024

HUGE INVESTMENTS⁴

Tech players are betting big: Meta \$33B, Microsoft \$13B (in OpenAI), Amazon \$4B and Google \$2B (in Anthropic)

Investments in Gen AI start-ups in 2023 record year, with x6 increase in funding vs. 2022



UNSTOPPABLE MARKET ECOSYSTEM EXPANSION²

~\$640 Billion the market size of Artificial Intelligence valued in 2028, from ~\$140 Billion of 2023

INCREDIBLY FAST EVOLUTION³

In February 2024 - **about a year after the release of ChatGPT 3.5 - was released Sora**, a model for text-to-video generation, and **Dall-E 3** (released in September 2023) which can generate incredibly accurate images from text



ENTERING THE ERA OF GEN AI: WHY IS IT SO IMPORTANT?

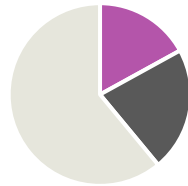
Gen AI, being a disruptive (not incremental) innovation, represents a huge opportunity for Italian Companies to improve their productivity

Significant value creation opportunity

Up to 25%

of productivity uplift for the Utilities Industry at Global level

Ways of working will be heavily impacted



39%

of all working hours in Italian Utilities can be either automated (22%) or augmented (17%) by Gen AI¹

2,5 Mln

New jobs in next 10 years in Italy from Gen AI²

It has become a Boardroom agenda



98%

of senior executives from key Utilities at Global level agree that AI foundation models will impact their 3-5 year strategies

Every industry is experimenting



50%

of executives consider investing in Gen AI a top priority



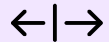
<10%

are achieving scaled value from AI, and even less for Gen AI



RISKS AND ISSUES TO MANAGE?

Evidences highlight a set of risks to be accurately managed through a structured governance



«**Silos**» effect: highly decentralized development of PoCs by different business units/area, with overlapping investments and unexploited synergies



Ethics and responsibility concerns - including health & safety concerns, potential harm to environment, social bias – in an evolving regulatory framework



Uncontrolled usage of Gen AI by employees: 28% of workers use Gen AI at work, 50% of them without any approval from supervisors



Intellectual property protection of both proprietary and third parties' data and output



Quality and trust: Gen AI frequently producing output that seems apparently reasonable although providing incorrect information



Autonomous Gen AI-based solution evolution: deep learning mechanisms requires continuous monitoring to ensure alignment with business objectives



Potential limitation to innovation and perpetuation of the past, since new contents are based on existing info and patterns



Resistance to change and status-quo protection by people

THE GEN AI EMPOWERED UTILITIES: OUR VISION

Gen AI brings disruption along the whole value chain, through 3 main archetypes

1

A NEW WAY TO INTERACT WITH CUSTOMERS

RETAIL CUSTOMERS

Real-time resolution & proactive care thanks to a "Human + Machine" front-to-back integrated model

Customer Operations | Retail Market | Compliance

EV & FLEXIBILITY

Fully automated energy and data flows

Managed Charging | EV Charging Retail | Flexibility & Energy Mgmt.

TRANSMISSION & DISTRIBUTION

Physical and digital assets fully interconnected for a highly efficient ecosystem

Asset Management | System Operations | Work Management

2

ASSETS REDEFINED BY PHYGITAL COUPLING



WATER

Intelligent infrastructures planning and maintenance for efficient management of water

Infrastructures Simulations & Planning | Water Quality Assessment | Infrastructures Monitoring and Maintenance

3

ENTERPRISE SERVICES BUILT AROUND WORKERS

GENERATION

Intelligent mgmt. from development to operations for highly profitable plants

Operation & Maintenance | Commercial Optimization | Engineering & Construction

ENTERPRISE SERVICES

Employee-centered, self-service & personalized Corporate Services

IT Services | Procurement & Supply Chain | Human Resources

WASTE

Highly automated ops and circular waste valorization

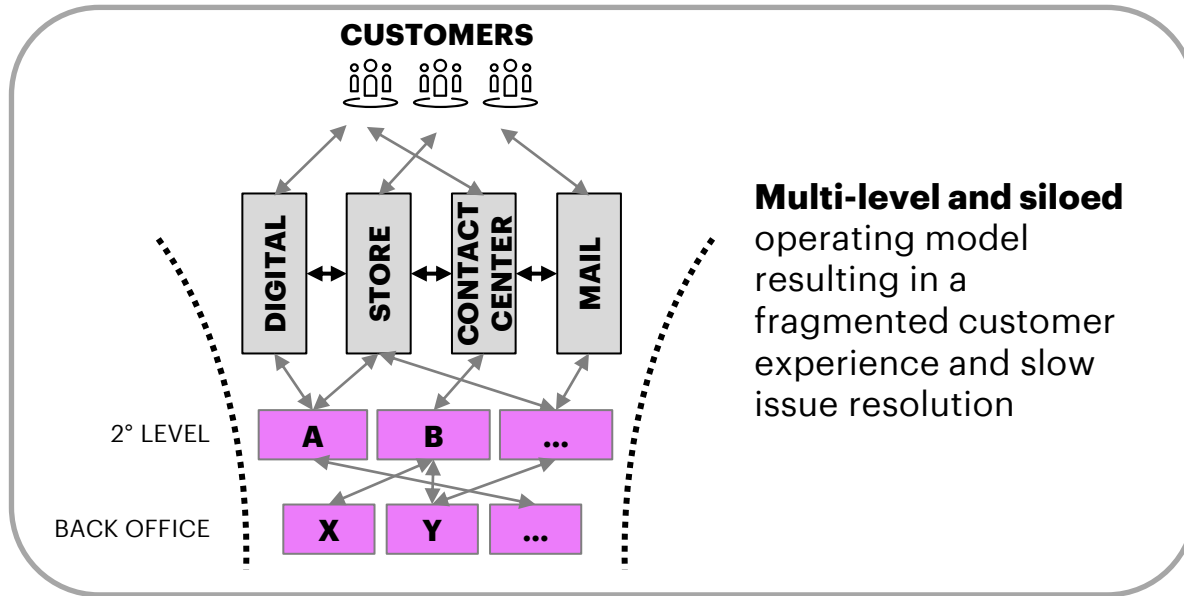
Logistics & Transportation | Waste Sorting | Chemical Analysis (e.g. Waste-to-Energy)



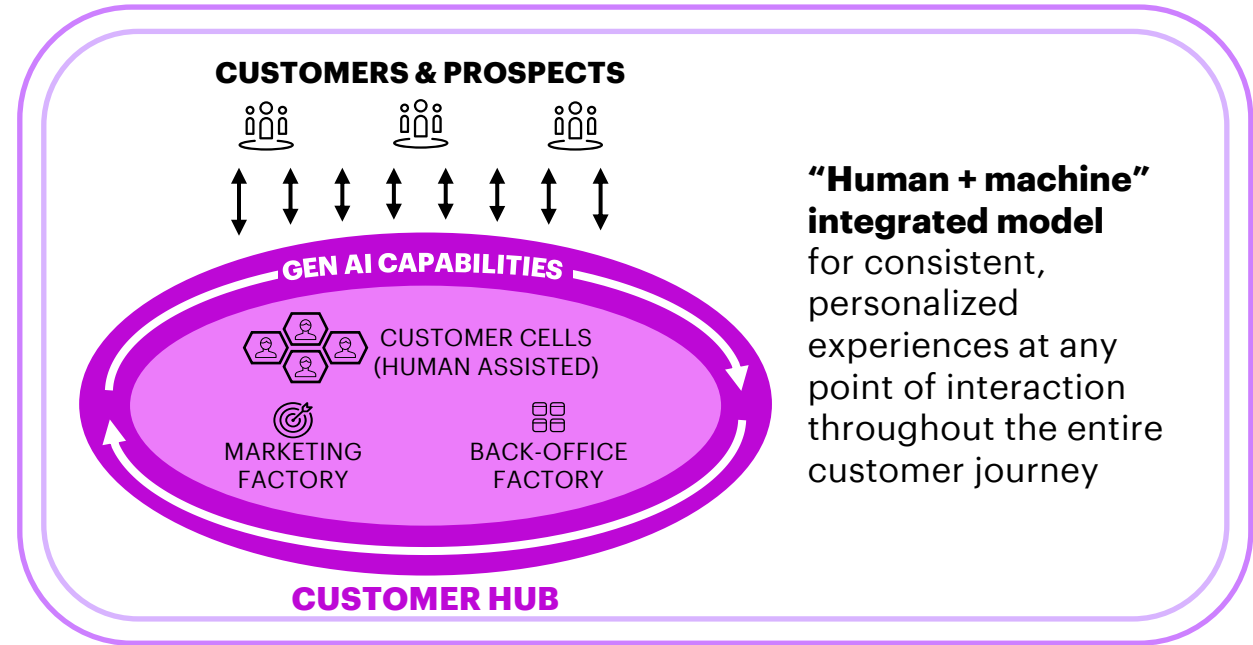
ARCHETYPE 1: A NEW WAY TO INTERACT WITH CUSTOMERS

FROM...

...TO



Multi-level and siloed operating model resulting in a fragmented customer experience and slow issue resolution



“Human + machine” integrated model for consistent, personalized experiences at any point of interaction throughout the entire customer journey



Proactive, hyper-personalized caring, marketing and sales



Integrated front-to-back model for high-value real-time interactions



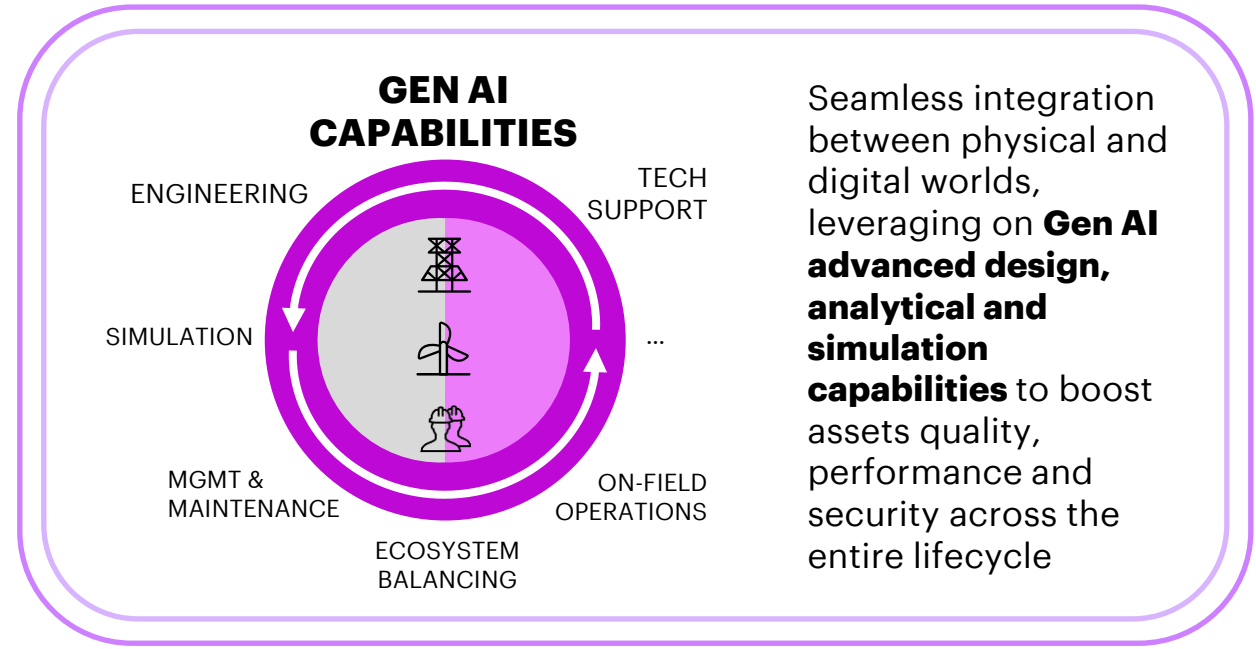
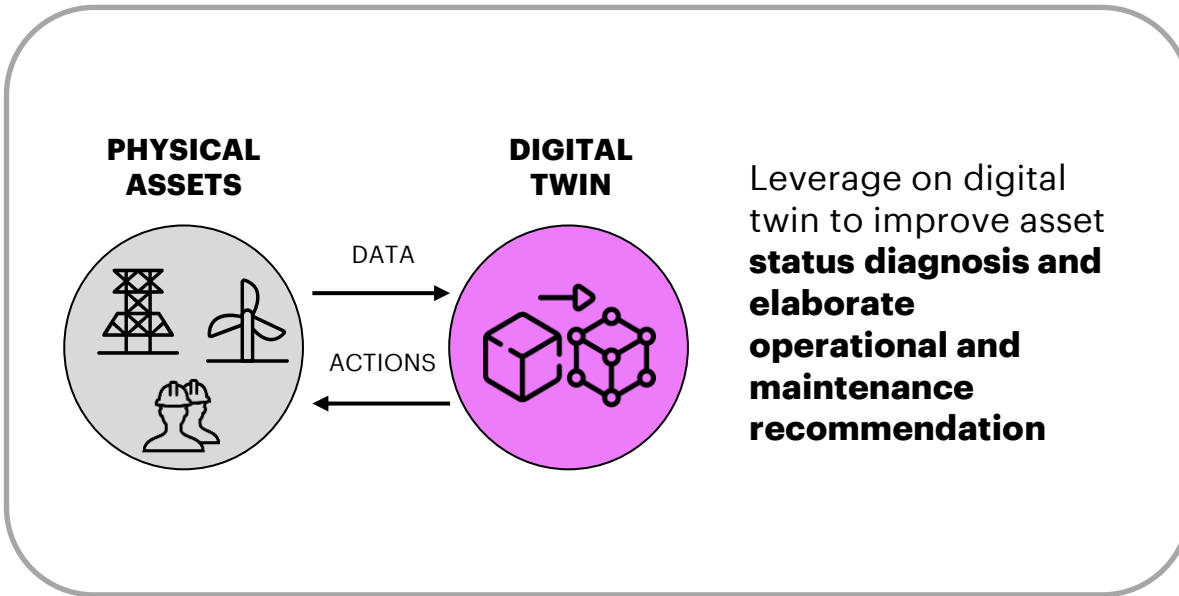
Real-time and conversational engagement with customers



ARCHETYPE 2: ASSETS REDEFINED BY PHYGITAL COUPLING

FROM...

...TO



Advanced engineering
capabilities for assets
design & development



Advanced simulation
capabilities to boost
assets performance



Security and safety
maximization

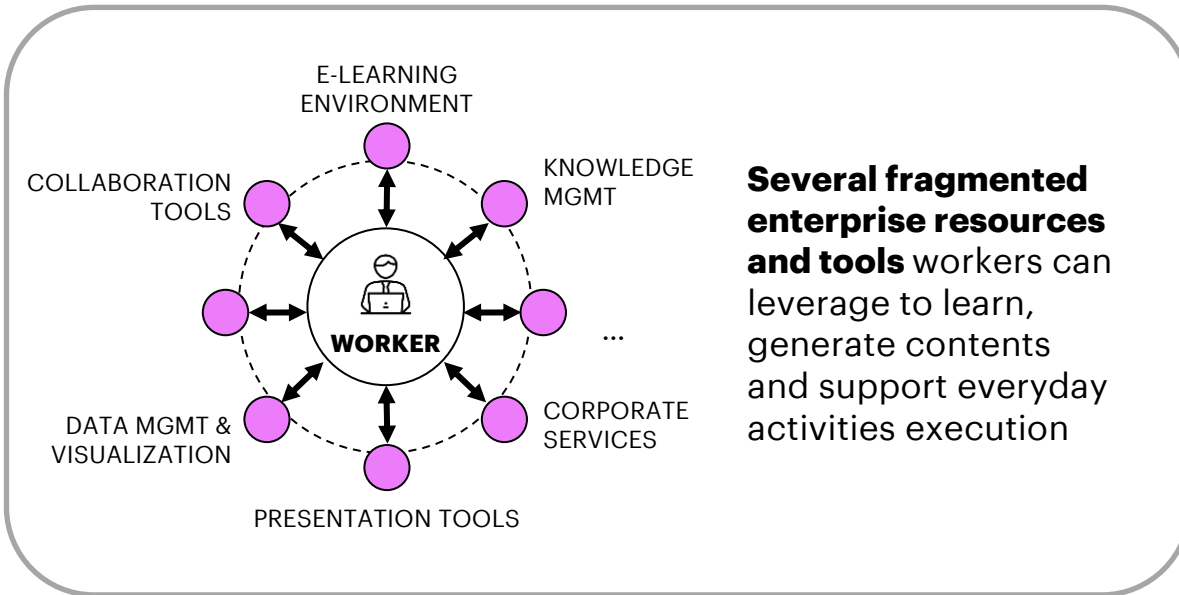


On-field workforce
augmentation

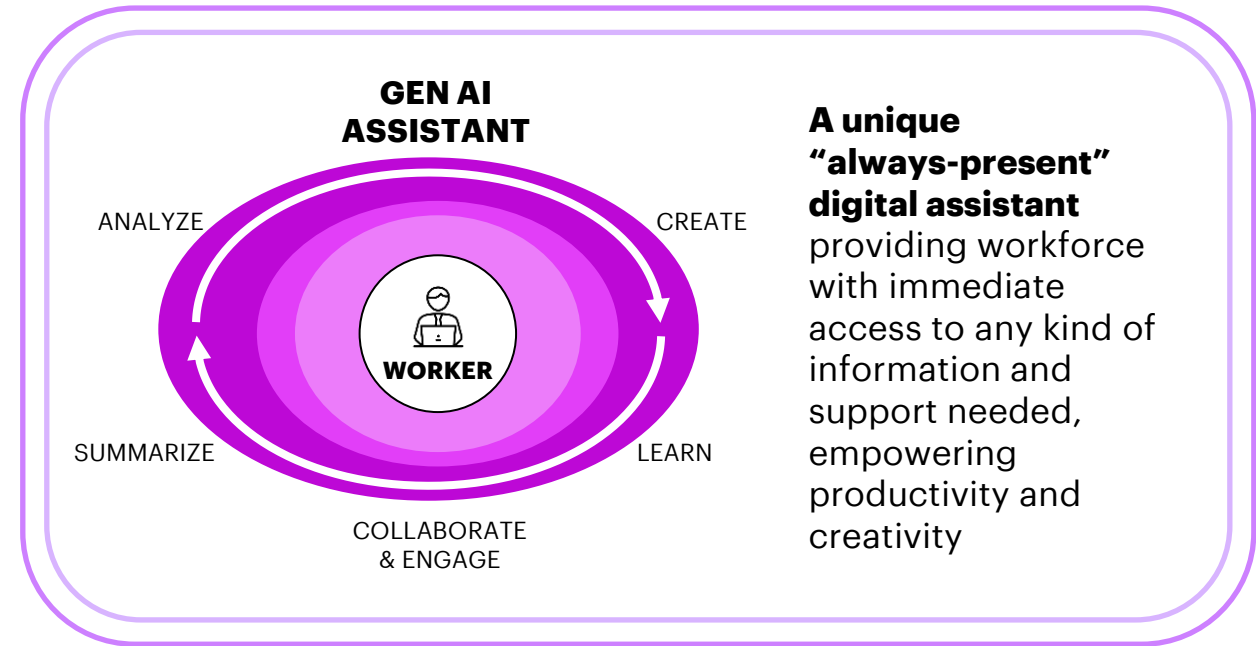


ARCHETYPE 3: ENTERPRISE SERVICES BUILT AROUND THE WORKER

FROM...



...TO



Easy and immediate access to Company knowledge and automatic synthesis elaboration



Deliverable creation automation and/or augmentation



Real-time support from Corporate Services and quick issue resolution



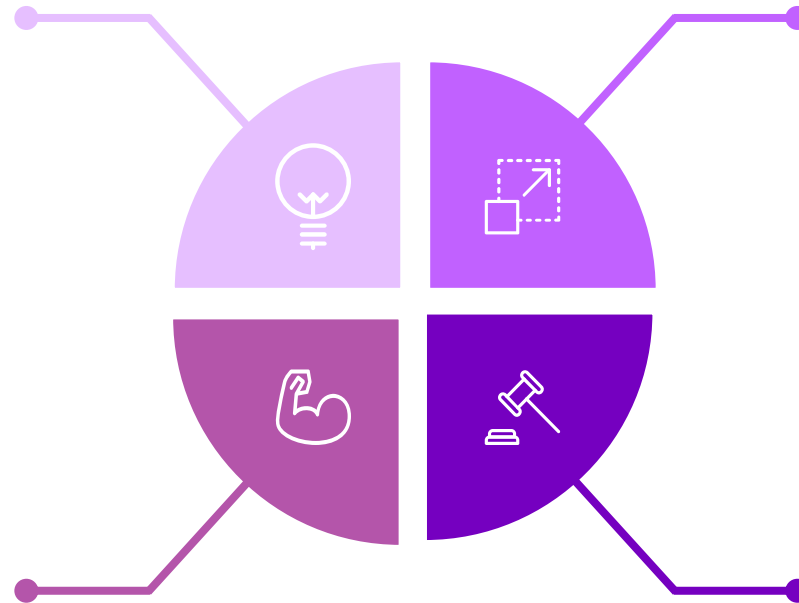
4 INGREDIENTS TO FULLY UNLEASH THE VALUE OF GEN AI

1. ADOPT A REINVENTOR MINDSET

Continuously re-imagine business models and ways of working, exploiting Gen AI potential and synergies with ecosystem partners

4. RESHAPE WORKFORCE AND PREPARE WORKERS

Define new roles and re-skill your people, while building a liquid workforce to rapidly shift roles in response to technologic and organizational evolution



2. BUILD A FLEXIBLE MODEL TO BRING GEN AI AT SCALE

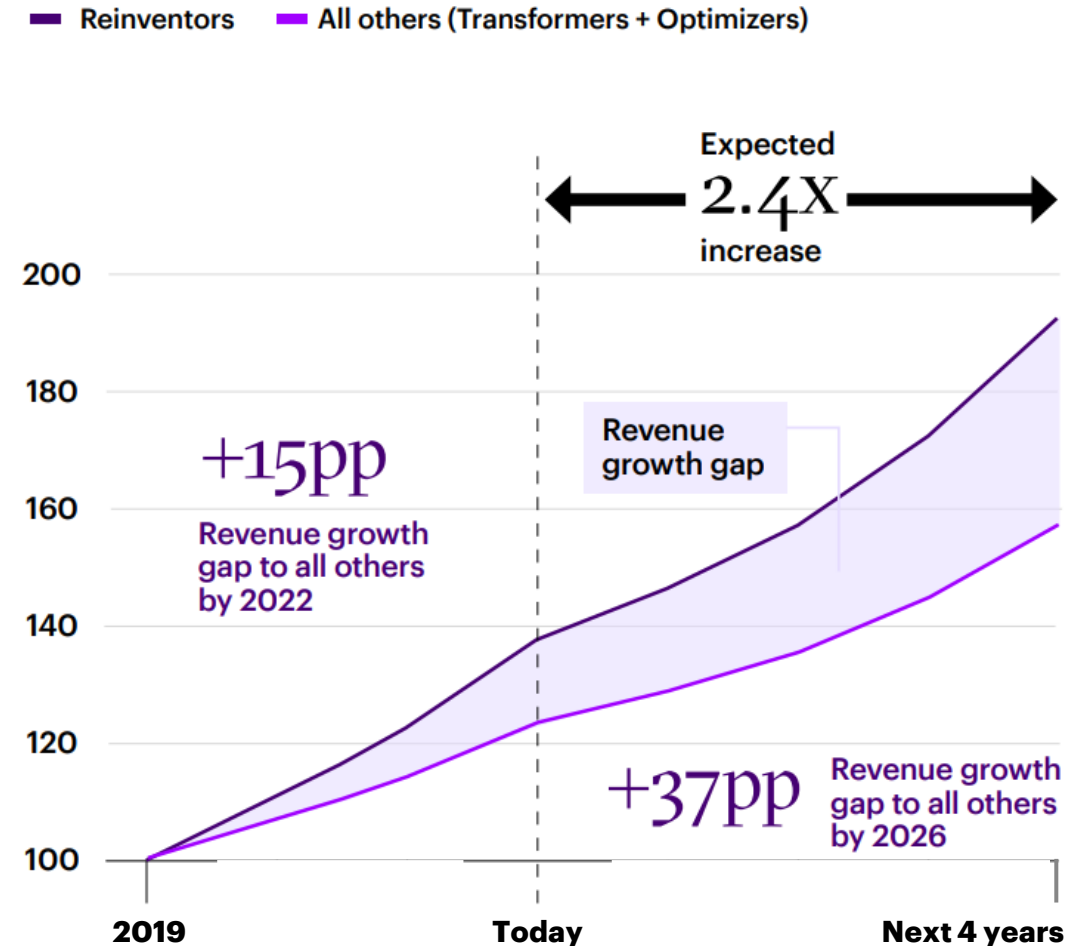
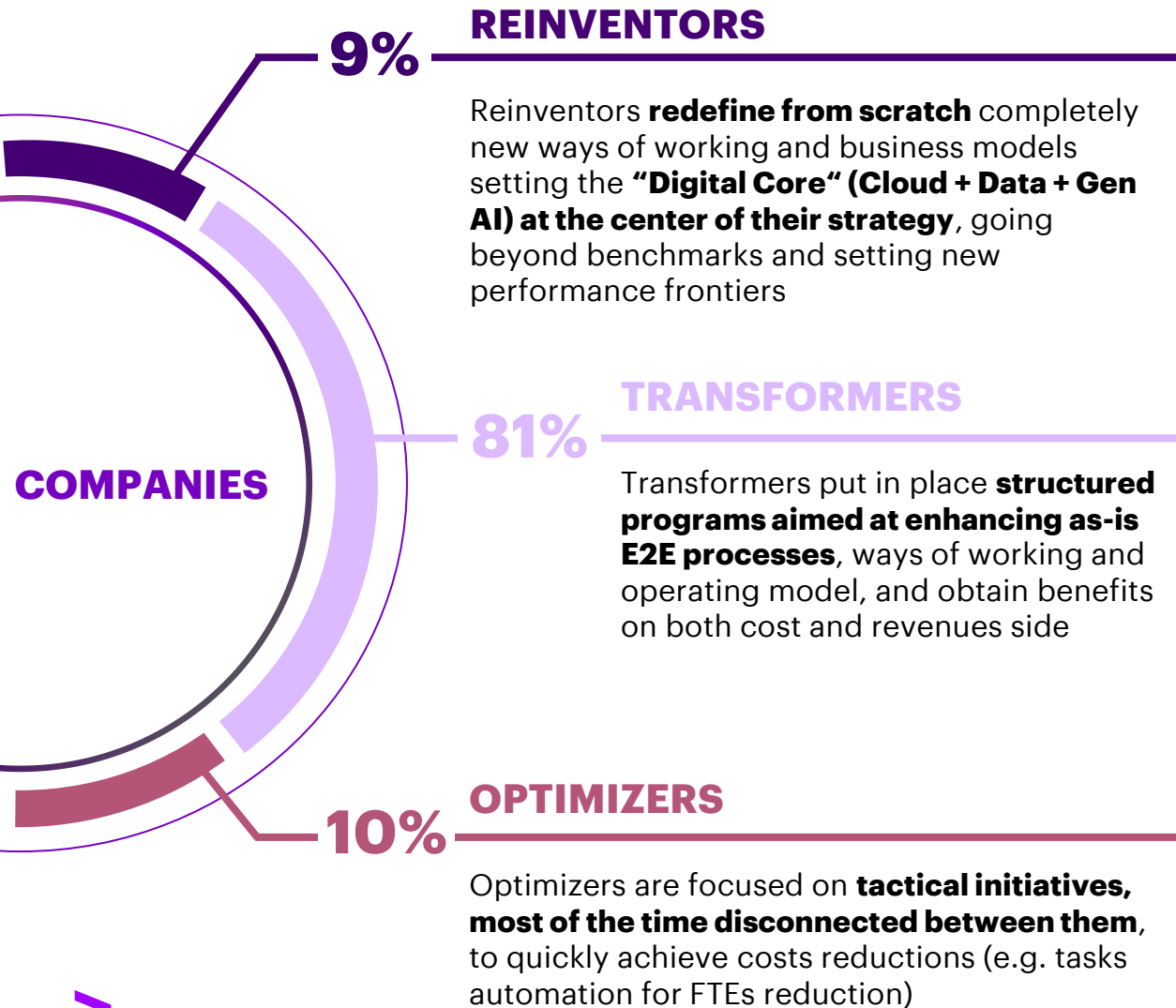
Ensure the right balance between business demand for speed, technology evolution and company need for industrialization, efficiency and governance

3. MAKE SURE GEN AI IS USED RESPONSIBLY

Take intentional actions to design, deploy and use Gen AI to create value and build trust while protecting from potential Gen AI risks

1. ADOPT A REINVENTOR MINDSET

Continuously re-imagine business models and ways of working, exploiting Gen AI potential and synergies with ecosystem partners



2. BUILD A FLEXIBLE MODEL TO BRING GEN AI AT SCALE

Ensure the right balance between experimentation and a structured governance to realize value at scale

DRIVE & GOVERN REINVENTION

Top management involvement to ensure re-invention relevance and buy-in

CEO & TOP MANAGEMENT

VALUE REALIZATION OFFICE

GEN AI HUB

Intersection of internal AI specialized skills and external partners to realize innovation efficiently at scale

AI OBSERVATORY



ECOSYSTEM PARTNERS

CENTRE OF EXCELLENCE & FACTORY

GEN AI SPOKES AND BUSINESS UNITS

Support business in generating innovative ideas, quickly realize prototypes and shape AI solutions

SPOKES



Business Owner



Business Owner



Business Owner

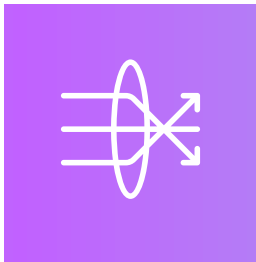
BU's



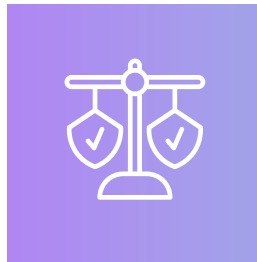
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Gen AI Risk Landscape



Bias & harm



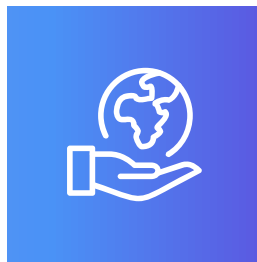
Liability & compliance



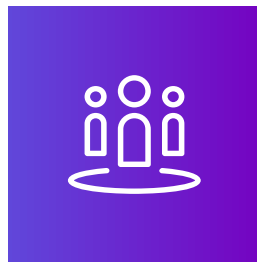
Unreliable outputs



Confidentiality & security



Sustainability



Workforce transition

Value

Industrialize data and Gen AI quality and performance

..... Fortify existing operational infrastructure

Improve customer experience

Trust

Prioritize human wellbeing and equity

..... Generate customer trust and investor confidence

Boost employee commitment

De-risk

Deploy enterprise-wide governance

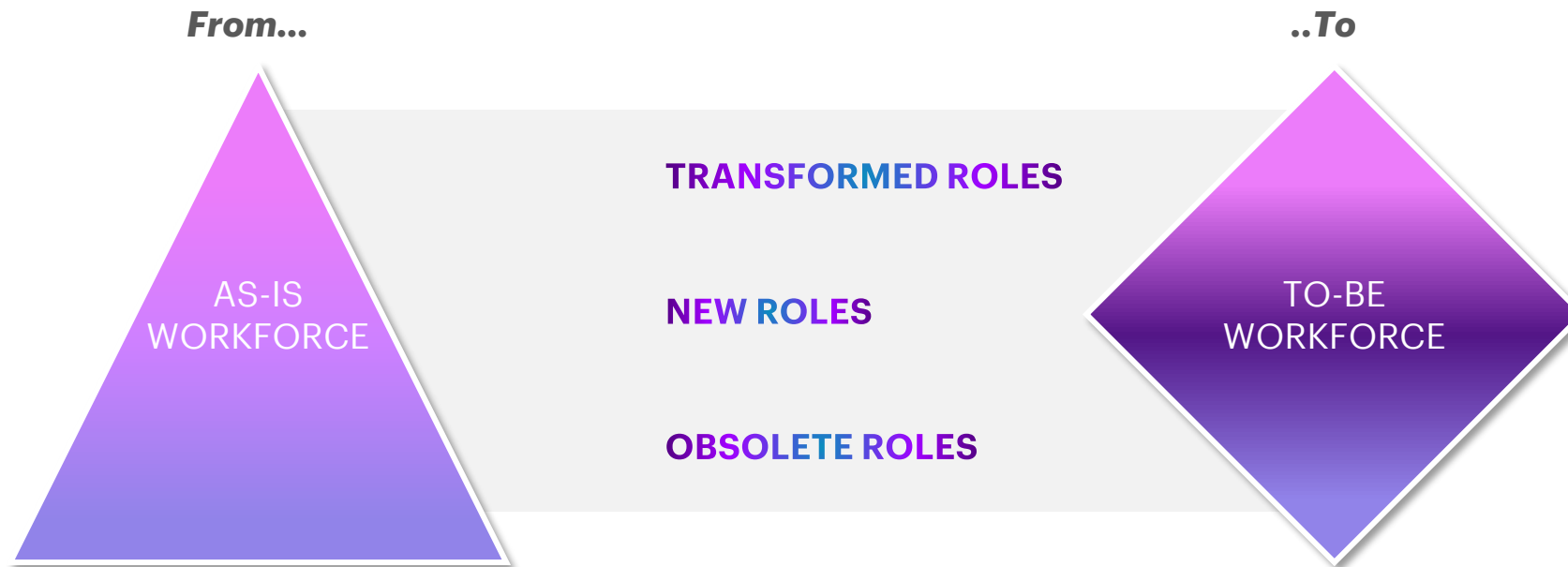
..... Develop regulatory readiness

Secure data privacy and Gen AI



4. RESHAPE WORKFORCE AND PREPARE WORKERS

Define new roles and re-skill your people, while building a liquid workforce to rapidly shift roles in response to technologic and operating model evolution



60%
of workforce
to be
re-skilled
in the next 10
years
in Italy



KEY TAKE AWAYS



Gen AI is a highly disruptive factor, a **unique opportunity for Italy to fill productivity gap, impacting the entire Utilities value chain** business and operating models



To fully benefit from Gen AI potential (and achieve more than some incremental enhancements), it is fundamental to **adopt a “Reinventor” mindset and make sure CEO and Top Management are on the driving seat** of Companies reinvention



Key success factor for this reinvention is the ability to **build ecosystem partnerships** at cross-industry level (e.g. JVs, Open Innovation models, collaborations with Tech players) to leverage on complementary capabilities, re-imagine the Utility of tomorrow and accelerate business value



In this phase, **trust is key**. Make sure customers, employees and all other stakeholders' priorities and concerns are adequately addressed can boost reinvention and be a sustainable competitive advantage for the next years



THANK YOU!

