



"FRIGHTENINGLY EXCITING
FUTURES!"

Welcome! 😊

#AIMONDAY®

(FUTURE) AI CASES IN INDUSTRY

Monday 27.11.2023



VESA AUVINEN, DAZZLE OY
#TULEVAISUUSILO #PAREMPIATULEVAISUUKSIA



DAZZLE
TULEVAISUUSILON RAKENTAJA!
MUUTOSJOHTAMISEN KUMPPANI!

Vesa Auvinen

"See. Build. Live. Better futures!"

AI & Metaverse Strategist

Chief Imagination and Impact Officer

Certified Foresight Professional (CFP)

Certified Board Member (CMB)

Innovation Management Officer (IMO)

Cofounder & Chair of the Board, Dazzle Oy

Collaborated with over 200 companies and organizations in foresight, strategy, innovation and renewal!

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www.dazzle.fi



DAZZLE 

*"How do we combine **the best potential of the people, culture, leadership, technology, strategy and the new ways of working to see and build better futures?**"*

*#yhteisäly #collectiveintelligence #foresight #strategy
#innovation #AI #metaversumimatkaopas #tulevaisuusilo
#parempiatulevaisuuksia*

Kirjasta sanottua: "Luettu - ihan huippu! Suosittelen alasta ja positiosta riippumatta kaikille!" "Tämä kirja pitäisi kaikkien yritysjohtajien ja päättäjien lukea!"



METAVERSUMI!

MATKAOPAS JOHTAJILLE,
HALLITUSTYÖLÄISILLE,
OMISTAJILLE JA UTELIAILLE
(KAUPPAKAMARI 2023)



USE CODE: **META20** (-20% 😊)

KauppakamariKauppa.fi

#metaversumimatkaopas #tekoäly #yhteisäly #tulevaisuusilo

<https://www.kauppakamariKauppa.fi/products/metaversumi-matkaopas-johtajille-hallitustyolaisille-omistajille-ja-uteliaille>



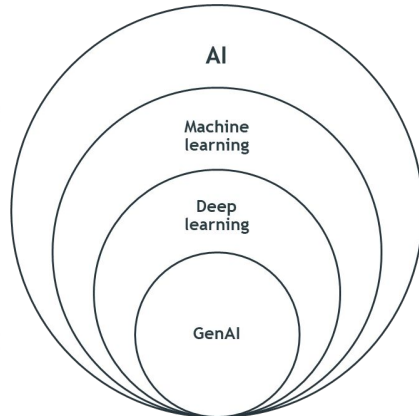
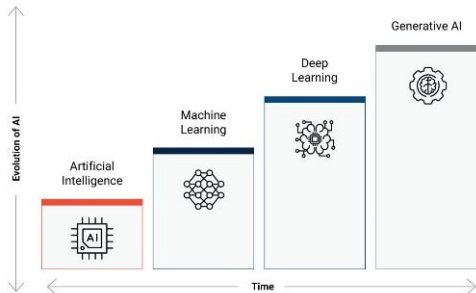
https://www.esa.int/Applications/Observing_the_Earth/Destination_Earth

+ AI → AI +

1. Improve existing (core)

2. Create new (adjacent)

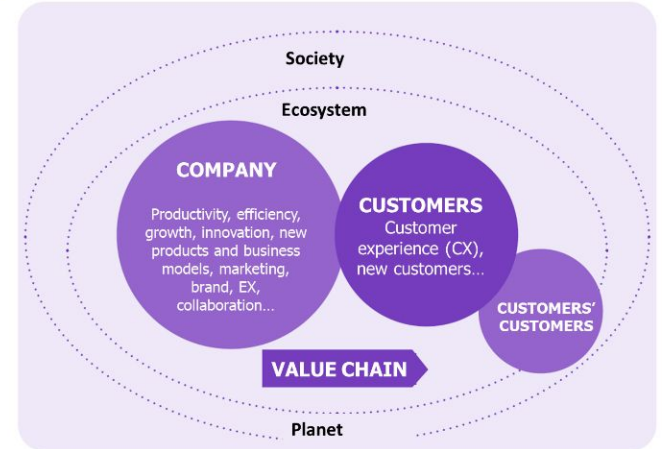
3. Reinvention (transformational)



- + Data
- + Digital twins
- + XR
- + IIoT
- + Robots
- + Metaverse
- + Cloud
- + 5G/6G
- +...?



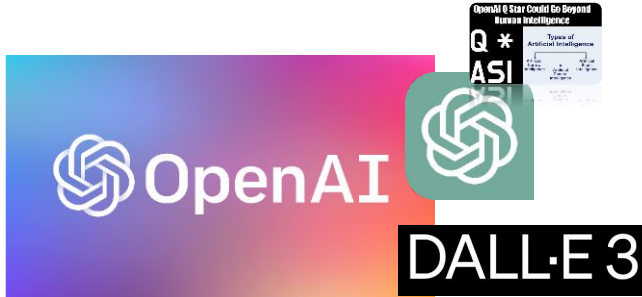
COMPANY, CUSTOMERS AND VALUE CHAIN (NETWORK)



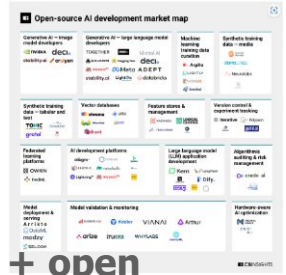
Analytical AI + ...

1. Improve existing
2. Create new
3. Reinvention

Generative AI (x-to-x) + metaverse + digital twins + robotics...?



Microsoft 365 Copilot



+ open



[Industrial metaverse](#) [News and announcements](#) · 4 min read

Introducing Copilot in Microsoft Dynamics 365 Guides, bringing generative AI in mixed reality to frontline workers

By [Lili Cheng](#), Corporate Vice President, Business Applications and Platform

Copilot in Dynamics 365 Guides capabilities

- Point and Ask Guidance
- Spatial Content Generation
- Step-by-Step Assistance
- On-demand Information
- Expert Knowledge Integration
- Streamlined Documentation



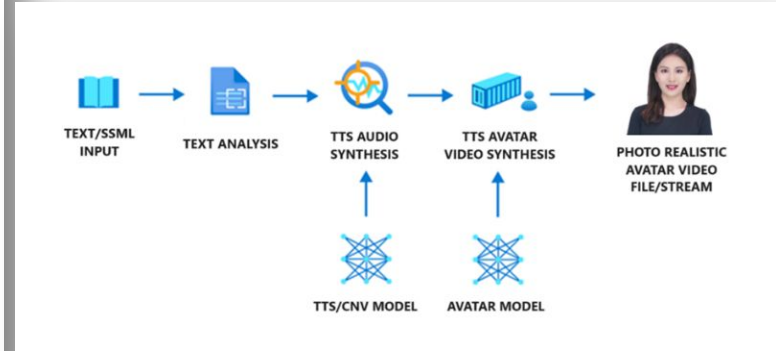
Photorealistic talking avatars with Azure AI Speech



24.11.2023 – VESA NOPANEN "MR. METAVERSE"

Have you ever wished to have a virtual assistant or a chatbot that can interact with your customers or audience in a more engaging and human-like way?

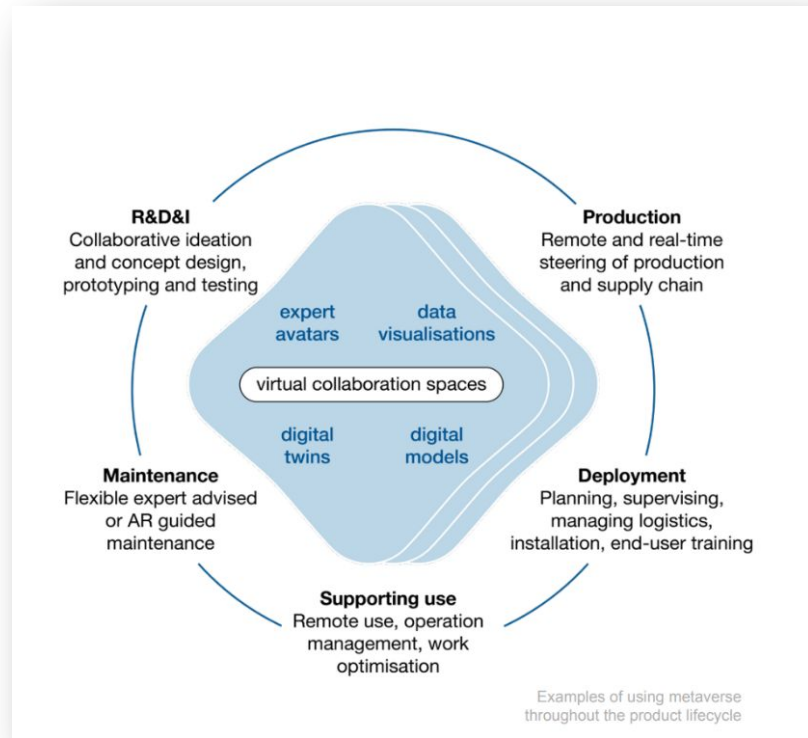
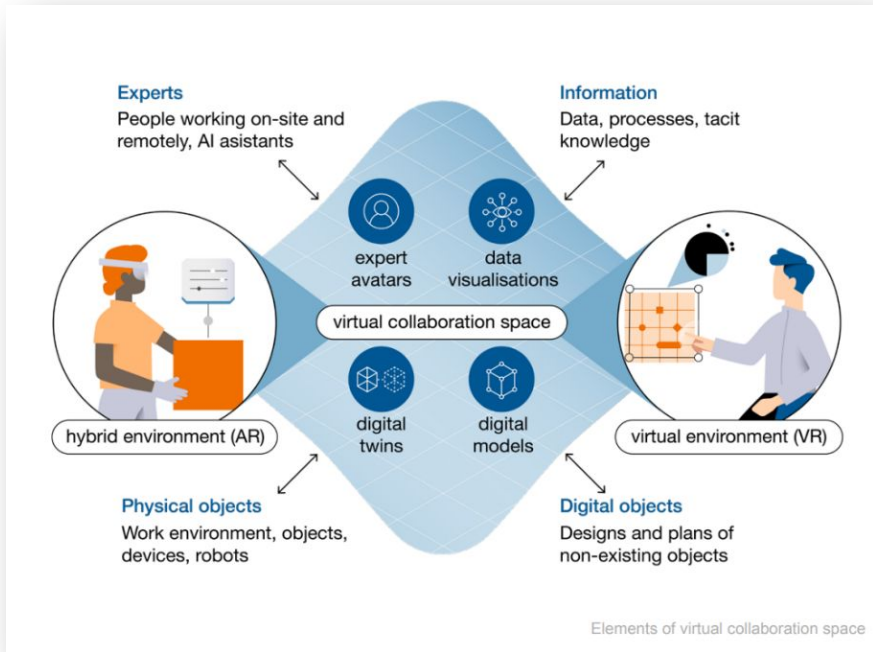
Microsoft launched its Azure AI Speech text-to-speech avatar creator at the Microsoft Ignite 2023 last week. This capability, currently available for public preview, allows users to create photorealistic avatars of people for use in a variety of scenarios. Some could call these deep fakes, but I don't: deep fakes are often/always malicious. Azure AI Speech avatars are for business use and follow Responsible AI guidelines.



+ **“Personal voice**, a new custom neural voice feature that will **enable businesses to create custom neural voices with 60 seconds of audio samples for their users.”**

Vesa Nopanen

<https://mymetaverseday.com/2023/11/24/photorealistic-avatars/>



https://publications.vtt.fi/julkaisut/muut/2023/VTT_HumiVERSE_Vision_whitepaper.pdf

www.vttresearch.com

Developed in cooperation with:



FINAVIA



Nordkapp



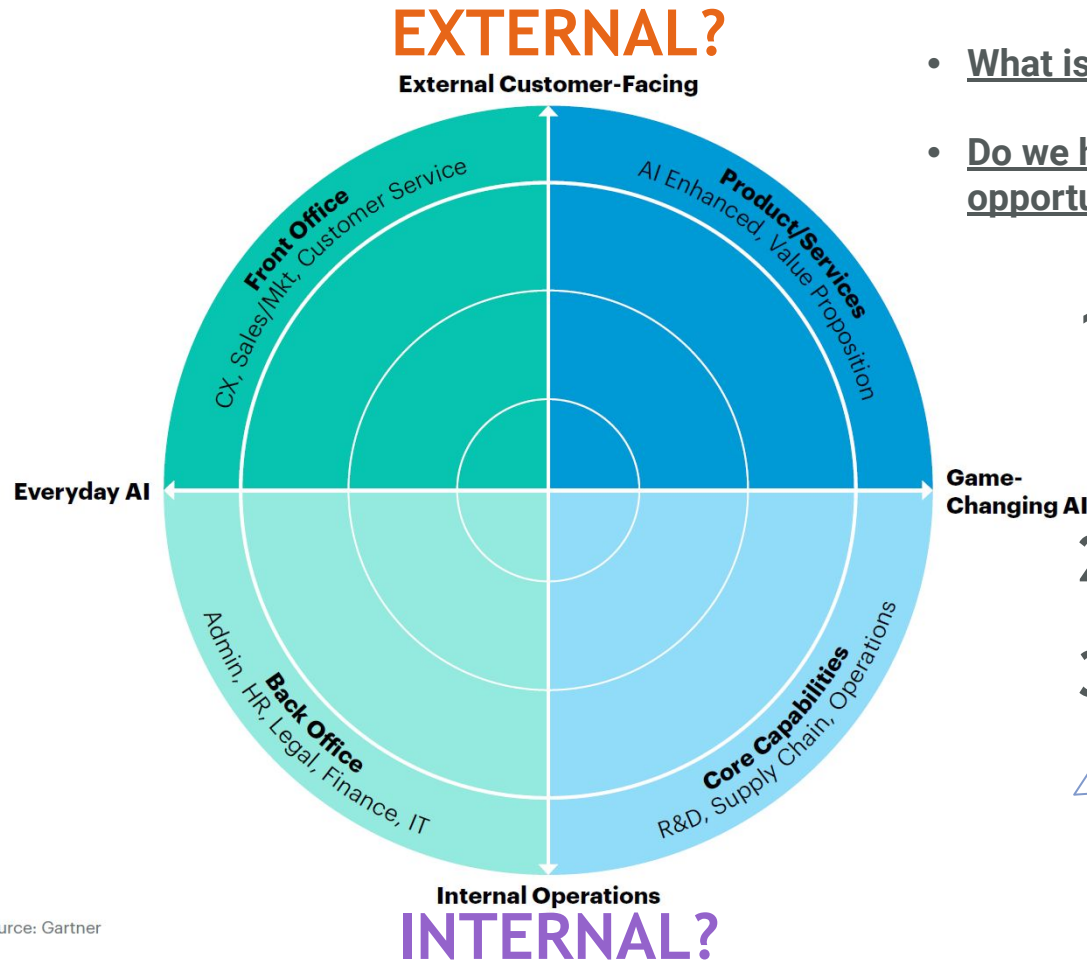
ZOAN



THE AI OPPORTUNITY RADAR:

“In each opportunity zone, the human-machine relationship changes.

- What is our risk and reward appetite?
- Do we have the resources to capture the opportunity for game-changing AI?”



1. Defend your position.
2. Extend your position.
3. Unend your position.

1. Improve existing

2. Create new

3. Reinvention

Figure 2: Typical AI Ambitions Enterprises Are Currently Pursuing

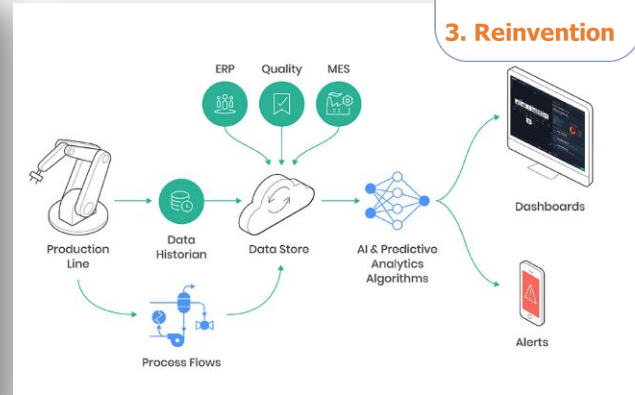
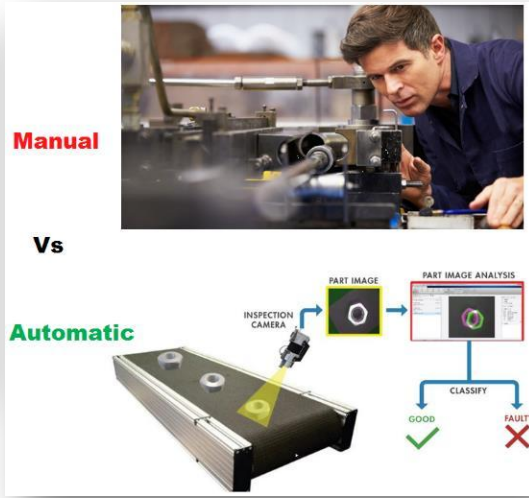
Typical AI Ambitions Enterprises Are Currently Pursuing



Source: Gartner
799922_C

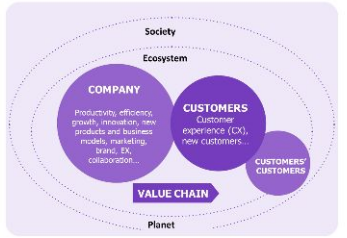
AI USE CASES...

1. Improve existing
2. Create new
3. Reinvention



Health, Safety and Environment (HSF)

COMPANY, CUSTOMERS AND VALUE CHAIN (NETWORK)



Training

Intelligent Decision-Making

Value chain optimization
Supply chain optimization

Personalized Customer Experiences

<https://industry40.co.in/automated-visual-quality-inspection-using-ai-ml-in-manufacturing/>

Quality control

Scenarios and simulations

Intelligent Automation

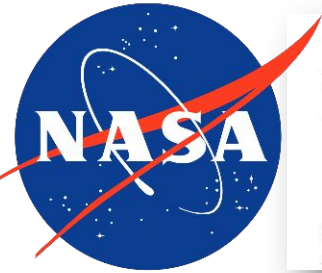
Predictive maintenance

<https://www.maintenance.com/predictive-maintenance/>



Lifecycle optimization

USE CASES IN INDUSTRY – AI + 3D-PRINTING



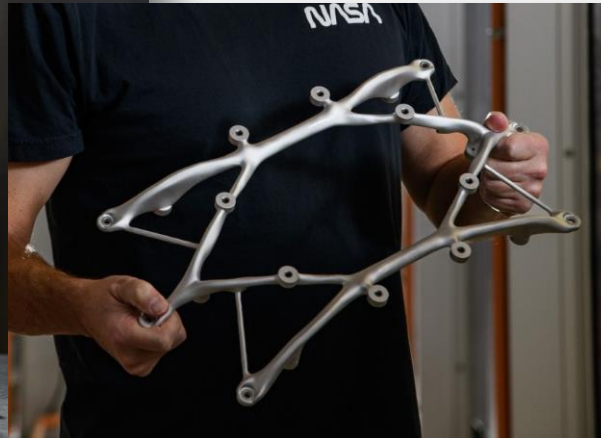
NASA Turns to AI to Design Mission Hardware

Hardware designed by AI may resemble alien bones, but they weigh less, tolerate more stress, and require a fraction of the time parts designed by humans take to develop.

“These evolved structures save up to two-thirds of the weight compared to traditional components, he said, and can be milled by commercial vendors. “You can perform the design, analysis and fabrication of a prototype part, and have it in hand in as little as one week,”

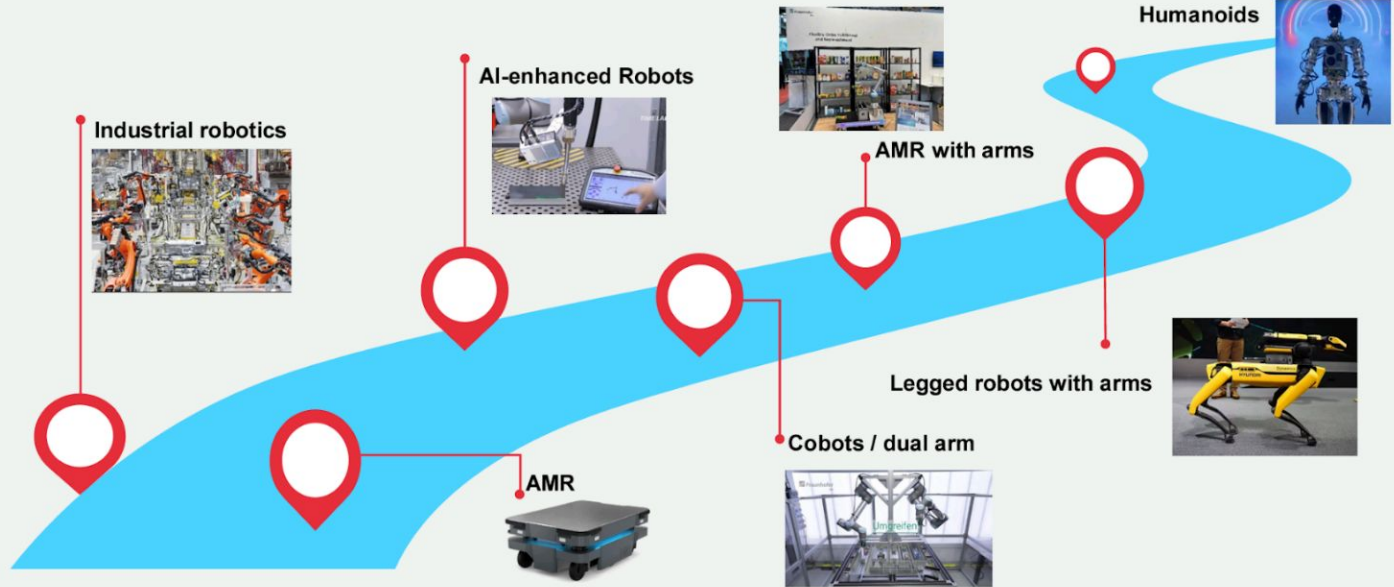
McClelland said compared with

“McClelland’s evolved components have been adopted by NASA missions in different stages of design and construction, including astrophysics balloon observatories, Earth-atmosphere scanners, planetary instruments, space weather monitors, space telescopes, and even the



USE CASES IN INDUSTRY – AI + ROBOTICS...

Long-term Research Trends



AI + (HUMANOID) ROBOTS?

Amazon Tests Using Humanoid Robots in Warehouses

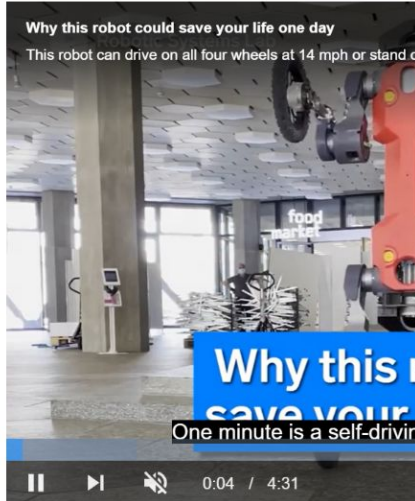
The use of Agility Robotics' Digit ur replacing human workers at Amaz collaboratively with human staffer



<https://uk.pcmag.com/news/149228/amazon-tests-using-humanoid-robots-in-warehouses>

China boldly claims it has a plan to mass produce humanoid robots that can 'reshape the world' within two years

416



<https://finance.yahoo.com/news/china-boldly-claims-plan-mass-131551362.html>

Tesla ramps up hiring for humanoid robot, including reinforcement learning



Fred Lambert | Oct 31 2023 - 8:14 am PT | 121 Comments

<https://electrek.co/2023/10/31/tesla-ramps-up-hiring-humanoid-robot-reinforcement-learning/>



Namaste

AI + METAVERSE + DIGITAL
TWINS+ ROBOTICS...

World's First Virtual Factory

BMW Group Opens Debrecen
Factory in NVIDIA Omniverse



Dr. Milan Nedeljković

Member of the Board of Management BMW AG Production

With NVIDIA Omniverse and AI we set up new factories
faster and produce more efficiently than ever.





GOAL: “To improve the design, construction and maintenance of new plants and reduce risks, BMW partnered with Siemens and NVIDIA to reinvent the design and construction process at the car plant.”

WHAT AND HOW: “Nvidia’s Omniverse Enterprise platform in the industrial metaverse played a key role in revamping the design process, and its use has revolutionized the way BMW designs factories.”

“NVIDIA’s Omniverse has enabled designers, product engineers, and production experts from different locations around the world to collaborate in a shared virtual space. The omniverse has also enabled better and real-time collaboration of different design teams.”

“The Omniverse can utilize data and digital twins of factories, cars, parts, production lines, robots, devices, people + AI, simulations....”

RESULTS: ...”the use of digital twin factories can reduce the time needed to bring a factory to reality by 20 to 30%. It can also improve quality by 20% and increase resource efficiency by as much as 40%.”

+
WHOLE
LIFE
CYCLE
+ NEW
INTERFA
CE
RESILIENCE
+ WHOLE
VALUE
CHAIN
+ SUSTAINABLE
MARKETING
AND SALES
+ GLOBAL
REACH
+ ...?
COMPETITIVE



BMW + AI...

AIQX



The BMW Group is proving to be a pioneer in the use of artificial intelligence as part of the **AIQX (Artificial Intelligence Quality Next)** project.

AIQX uses sensor technology and AI to automate quality processes, relying on intelligent camera systems and sensors along the production line. **The data they record is evaluated in the backend in real time using algorithms and AI**, and employees on the assembly line receive **immediate feedback via smart devices**.

In this way, AIQX can be used to identify variants, verify completeness and detect anomalies in the assembly process. **AIQX is easily scalable and currently being used in around 60 use cases plant-wide** – for example, to ensure correct installation of door strikers and belts or to check the BMW emblem and model inscription.



IPS-i ...consolidates data from a variety of different tracking systems on one IT platform and creates a digital twin of the assembly hall in real time... **the number of use cases... has reached about 1.200.**

Whether using smart scanners and nutrunners, triggering an AIQX inspection or relying on RFID to verify correct assignment of components to vehicles, **the basic principle is that all objects involved in the production process, i.e. vehicles, components and tools, can be localised and interconnected through the IPS-i platform.** For that, both assembly halls and large sections of the logistics area are now equipped with around 3,000 antennas; more than 8,000 objects have been "tagged" and recorded.

Valmet Automotive rakensi virtuaalimaailman autotehtaaseen

Tekijä: Katja Kaartinen - 23.11.2023 | 10:11

0



Innovaatiokeskus



- 1. Pilot Project:** Valmet Automotive and Telia collaborated on a pilot project to test technology enabling real-time collaboration among experts worldwide.
- 2. Service Robot:** A service robot created a virtual world using lidar scans from the Uusikaupunki car factory's innovation center.
- 3. Virtual Movement:** Users can navigate this virtual world using VR glasses or a computer screen.
- 4. Opportunities:** Valmet Automotive sees potential in location-independent work and flexible operations.
- 5. Industrial Metaverse:** The virtual world is expected to transform industrial work processes and facilitate experimentation.
- 6. Global Breakthrough:** Valmet Automotive's robot experiments are groundbreaking, creating an interactive system never seen before.

7. Transition to Implementation: Practical use of the system is enabling collaboration between experts worldwide.



AI (+ digital twins, metaverse, XR, cloud, robots...) **gives "superpowers"** to employees, teams, organizations, ecosystems and societies, leading to huge **productivity, creativity and sustainability leaps...**

...however, **adopting new technology is not enough; it also requires new mindsets, processes, leadership, and culture!**



HUMAN+
EMPLOYEE+
TEAM+

+AI → **AI+**



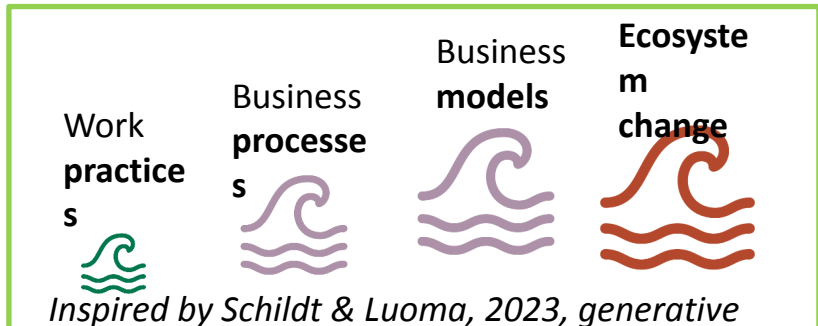
COMPANY+
ORGANIZATION+



ECOSYSTEM+



SOCIETY+



PLANET+



DAZZLE



TULEVAISUUS?

”On tullut aika nähdä teknologia enemmän ystävänä, kumppanina ja työkaverina sekä tiimin- ja perheenjäsenenä kuin vain työkaluna, palvelijana (tai jopa orjana).” – Vesa Auvinen 😊

”Iloisen luovaa vappua 2023, arvon Metaversumi-ryhmäläiset!

Tänä vappuna juhlistettakoon monimuotoisesti kaikkea työtä ja työntekijöitä niin fyysisissä kuin virtuaalisissa maailmoissa - olivat he sitten ihmisiä, tekoälyjä, avatareja tai robotteja.”

[#metaversumi](#) [#metaverse](#) [#vappu2023](#)
[#metaversumivappu](#) [#työnjuhla](#)
[#monimuotoisuus](#) [#yhteisäly](#)
[#tekoälystävämme](#) [#robottikaverit](#)
[#työntulevaisuus](#) [#tulevaisuustyökalut](#)

+AI → AI+



**THANK YOU! LET'S TOGETHER SEE,
BUILD AND LIVE BETTER
FUTURES!** 😊



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*#metaversumimatkaopas #tekoöly #yhteisöly #kestävä360arvonluonti
#tulevaisuusilo #parempiatulevaisuuksia @Dazzle*

Vinkki! Liity:

1. #Tulevaisuustyökalut-ryhmään:

- LinkedInissä: <https://www.linkedin.com/groups/12043862/>
- Facebookissa: <https://www.facebook.com/groups/580345292483435>

2. #Metaversumimatkopas-ryhmään

- LinkedInissä: <https://www.linkedin.com/groups/9091930/>

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