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# Imagining the future

## Digital Transformation and Implications for Auto Component Industry

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With you today...



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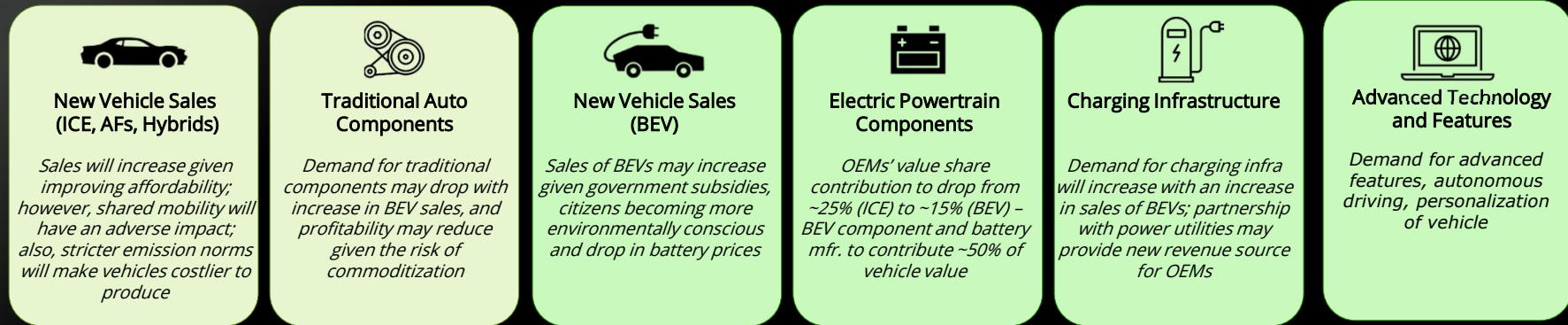




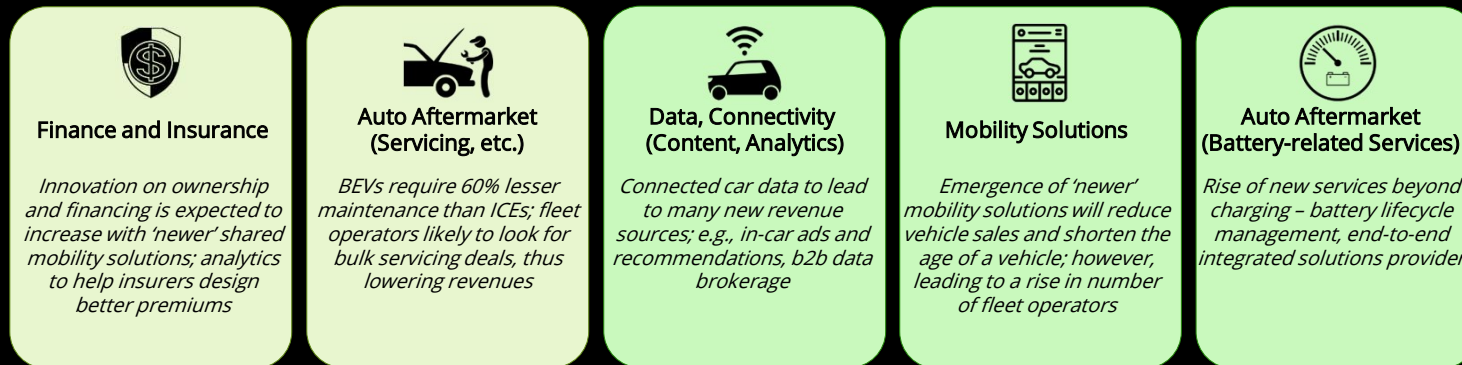
# The changing Automotive industry landscape

# The automotive industry is going through a significant change

## Product-oriented Profit Pools



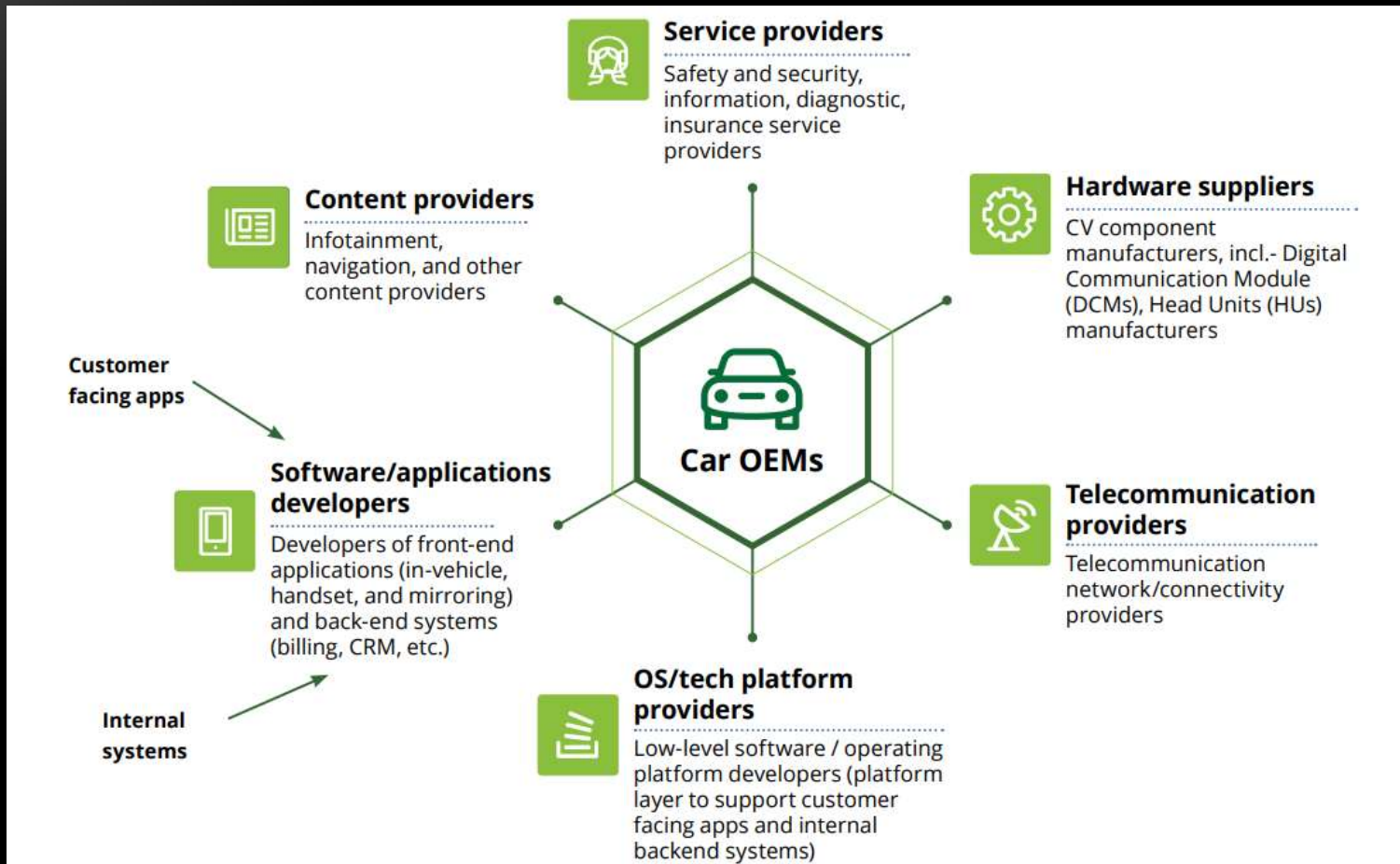
## Services-oriented Profit Pools



Traditional    Emerging

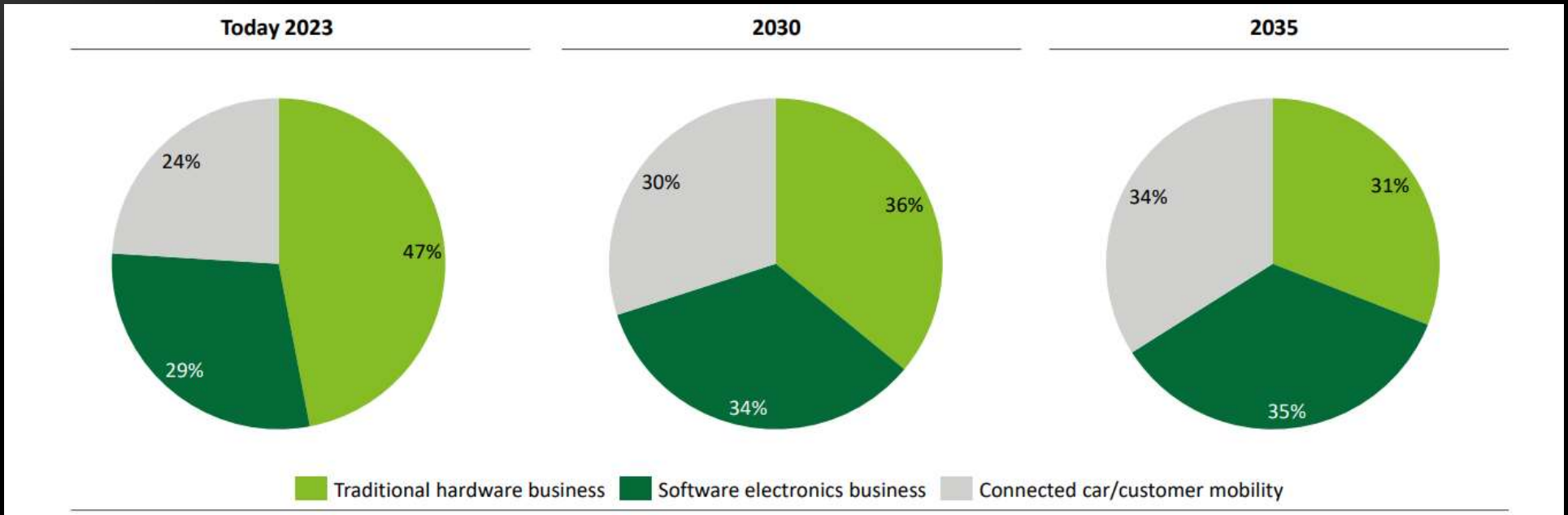


# The automotive ecosystem is becoming more complex



# Value architecture of automotive industry will change significantly in the coming decade

Expectation of Share of Business within the Automotive Industry



# Supply Chains will transform to Supply Networks...

## A Different Way of Thinking ...

### Whole-Systems Thinking

Actively breaking down barriers between functions to enable a digital supply network with truly integrated processes between different business functions

### Enterprise Optimization

Going beyond silo-based optimization to drive end-to-end functional optimization connecting manufacturing operations to warehouse operations and transportation

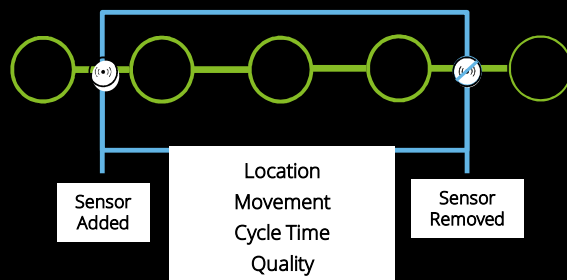
### Digitally Enabled

Correctly leveraging technology to collaborate inside of the organization, sharing one plan for record, and outside of the organization with customers and suppliers as one integrated digital supply network

## ... Unlocking new Capabilities

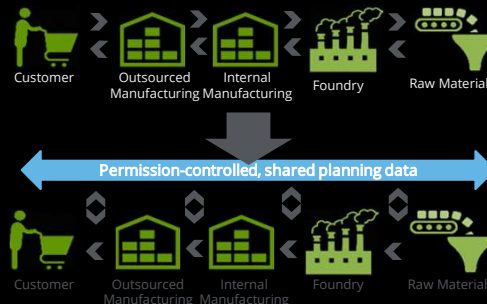
From smart factories

Location Beacons Provide Predictability.



through integrated valuechain planning

Shift from Sequential Planning ...



... to Concurrent Planning.

to end-to-end collaboration

Digitally Shorten the Lines of Supply.

Sense multiple tiers upstream



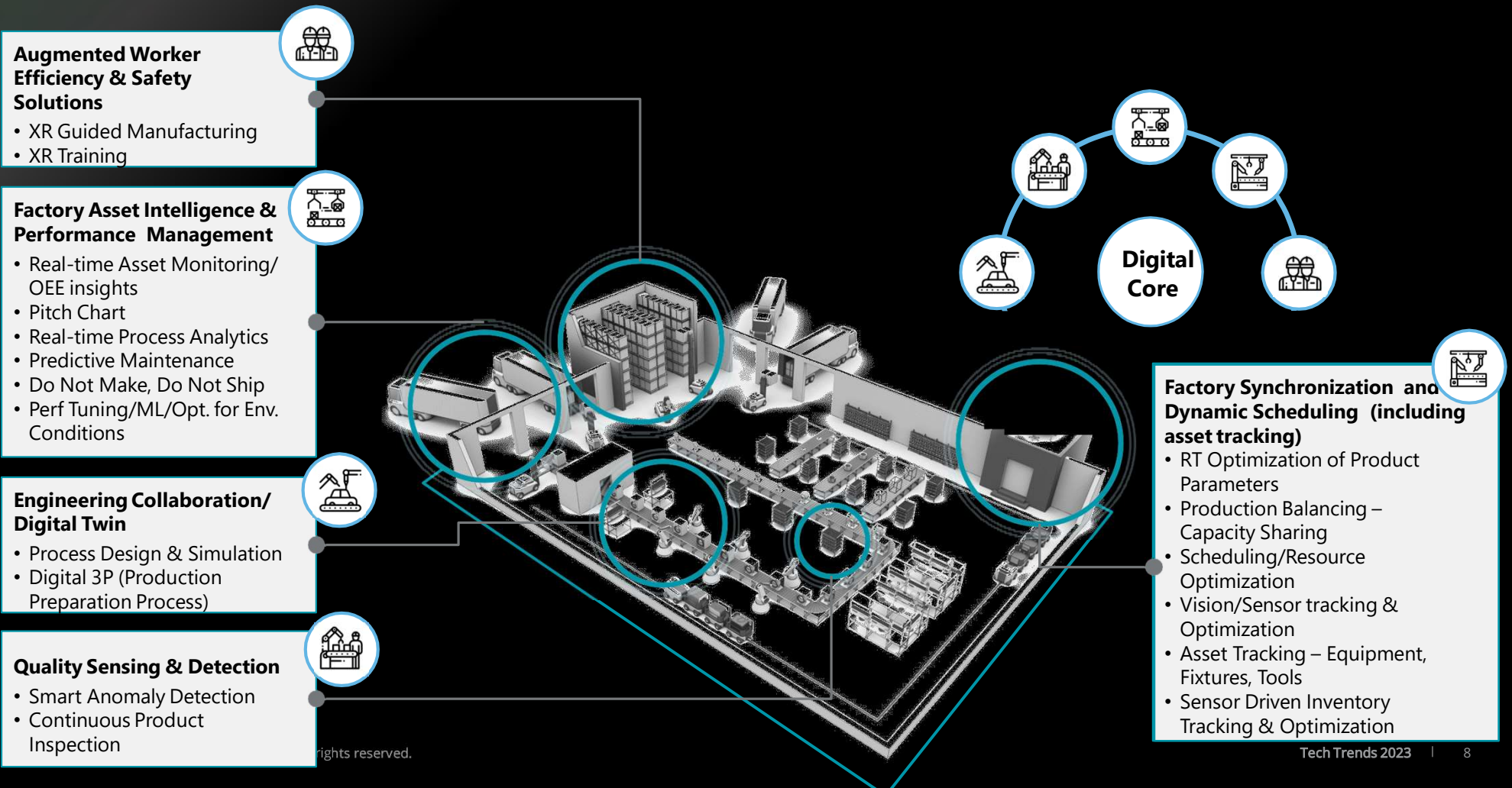
Improve collaboration



Optimize inventory levels



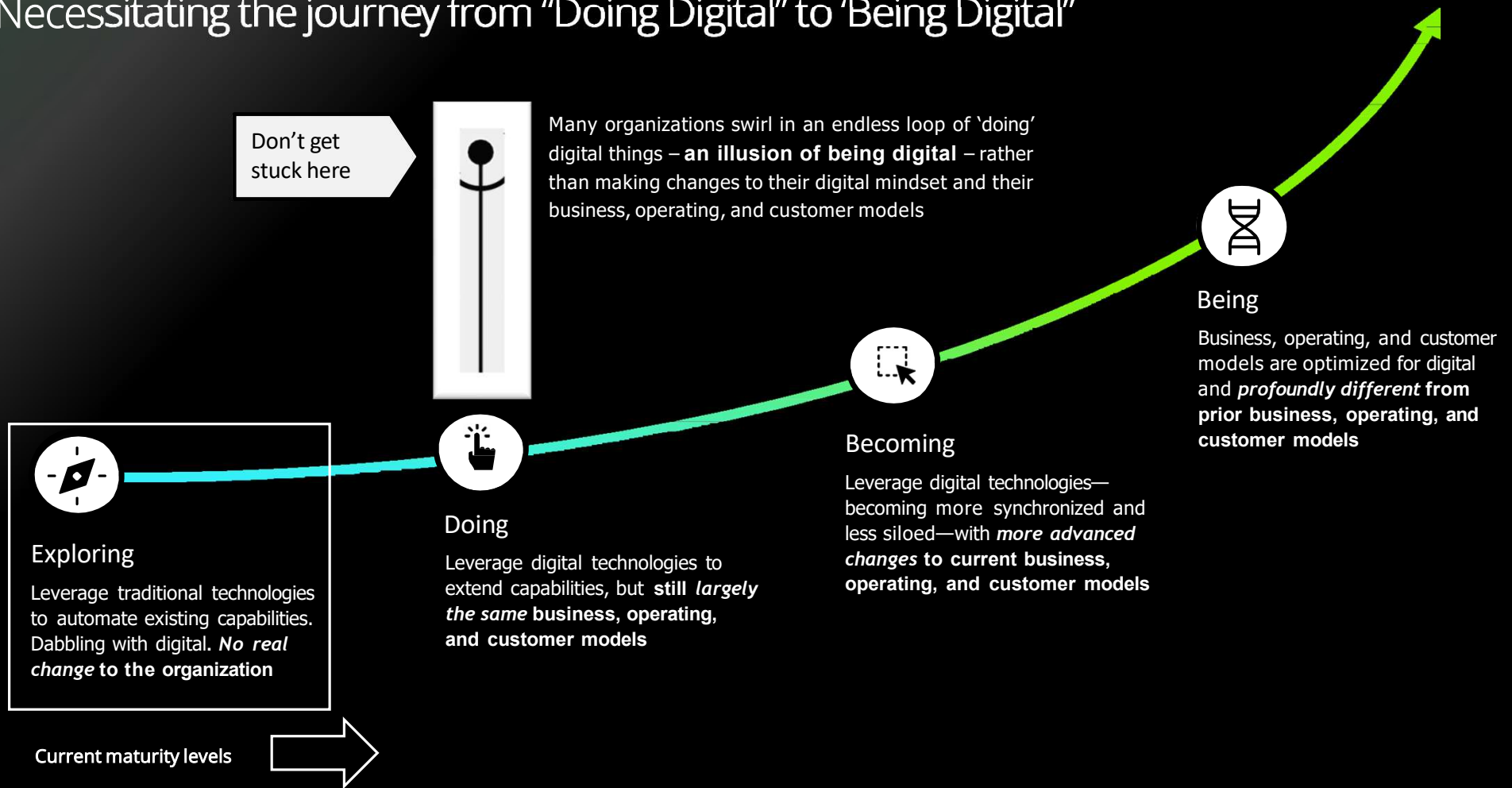
# Factories to Connected Smart Factories



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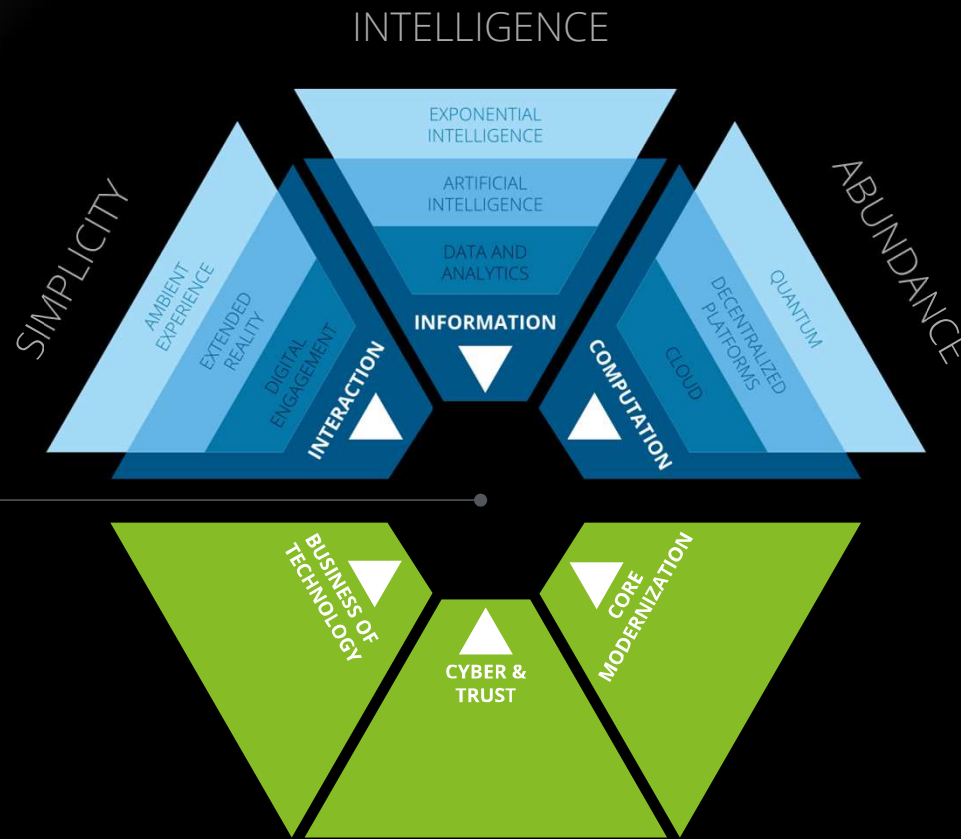
# Necessitating the journey from “Doing Digital” to ‘Being Digital’



# The technology forces shaping tomorrow



# Macro technology forces



Elevating Forces

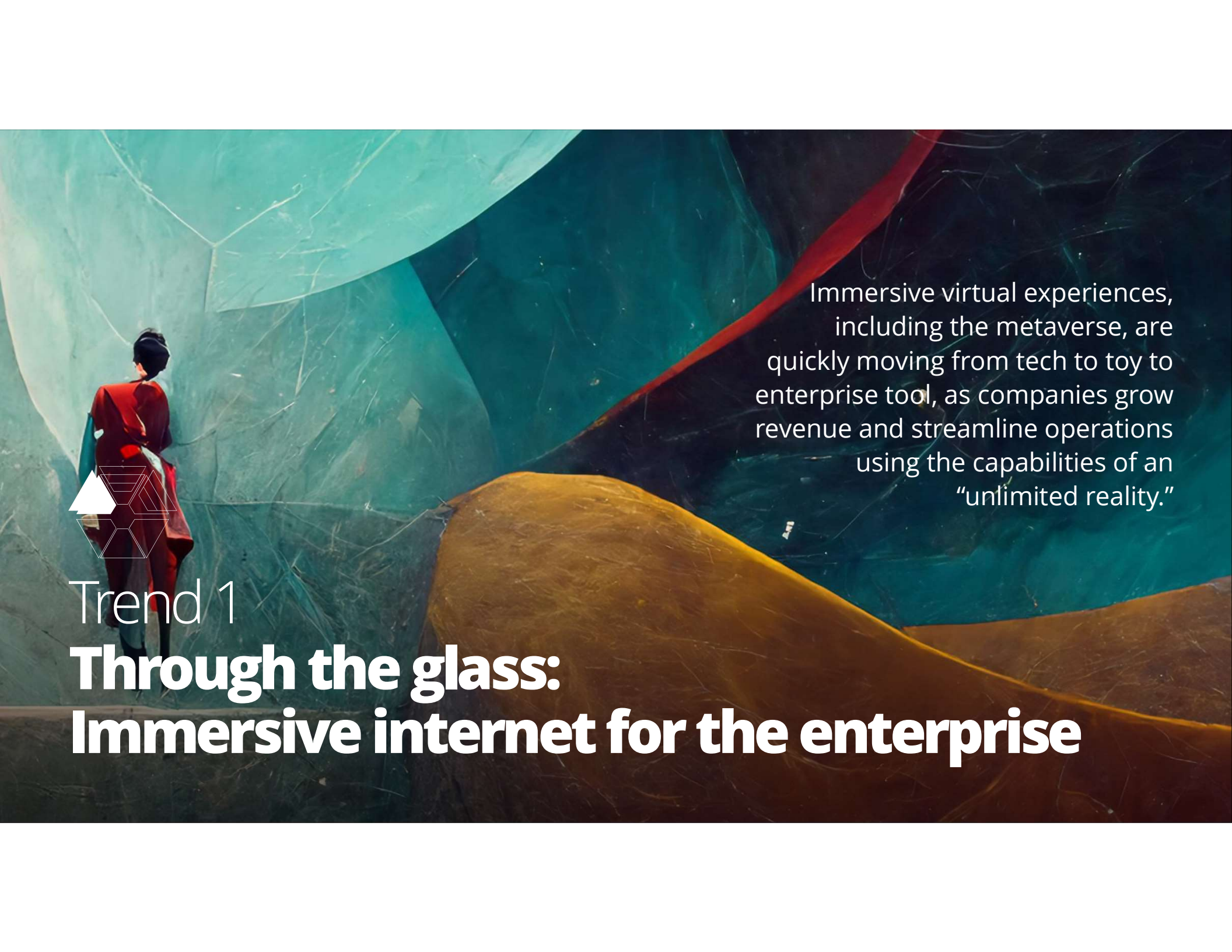
Grounding Forces





Trend 1

# Through the glass: Immersive internet for the enterprise

A person in a red coat stands in a virtual landscape with a cracked glass effect. The scene is composed of large, curved, translucent shapes in shades of teal and blue, with a prominent red ribbon-like shape. The overall aesthetic is futuristic and immersive.

Immersive virtual experiences, including the metaverse, are quickly moving from tech to toy to enterprise tool, as companies grow revenue and streamline operations using the capabilities of an “unlimited reality.”



Trend 1

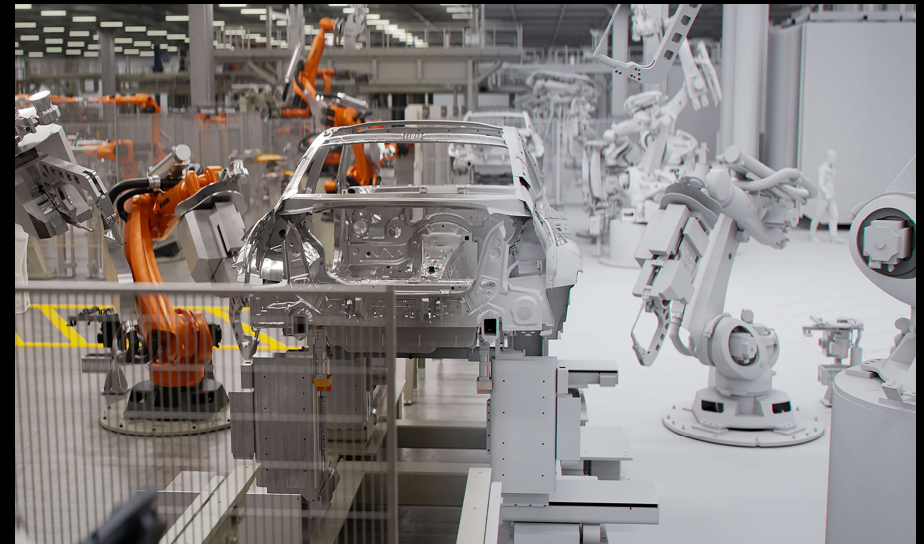
# Through the glass: Immersive internet for the enterprise



# The future is already here...

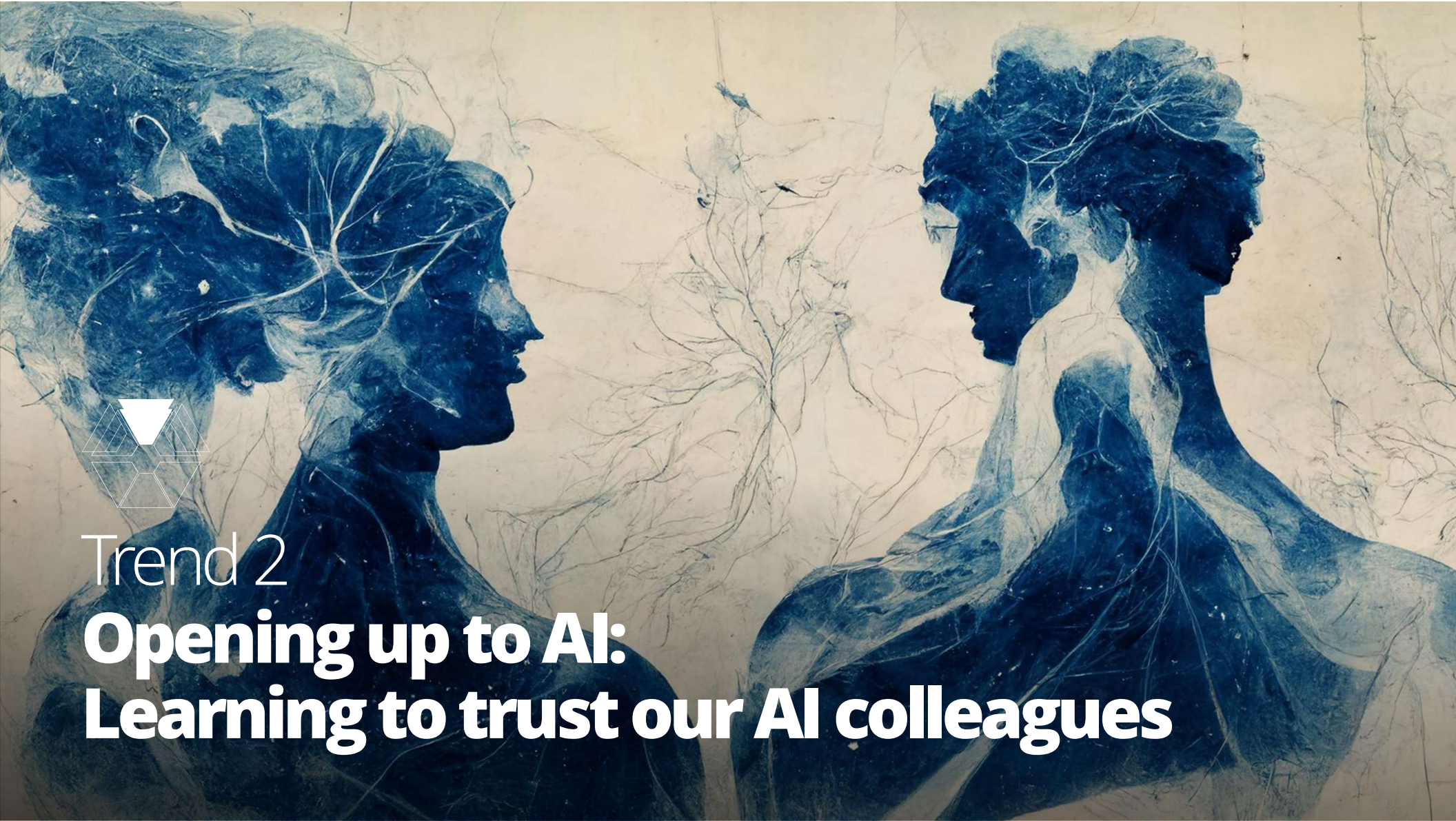
## BMW's Industrial Metaverse

- Created digital version of its upcoming electric vehicle (EV) facility in Hungary
- Allows for full-scale testing in a sandbox environment, identifying and solving potential issues with the factory — from floor layouts to validating the assembly process — before their physical counterparts are created
- Allowed the German automaker to start producing virtual EVs at a simulation of its €2bn plant in the city of Debrecen, which is still under construction



*"This is transformative," Milan Nedeljković, BMW's board member for production, at the virtual factory's inauguration. "We can design, build and test completely in a virtual world."*





Trend 2

**Opening up to AI:  
Learning to trust our AI colleagues**





Trend 2

# Opening up to AI: Learning to trust our AI colleagues

Trust is emerging as a key differentiator in enterprises' AI aspirations. Businesses that are moving toward becoming AI-fueled organizations are learning that trust may be just as important as the strength of their algorithms.

# The future is already here...

## Generative Design at GM

- GM engineers designed a new, functionally optimized seat bracket, a standard auto part that secures seat-belt fasteners to seats and seats to floors.
- Software came up with more than 150 alternative designs that look more like a metallic object from outer space
- Made of one stainless-steel piece instead of eight, the design GM chose is 40 percent lighter and 20 percent stronger than its previous seat bracket.



*Using generative design and additive manufacturing, GM was able to consolidate the eight different components of a small but important part—a seat bracket, where seat belts are fastened—into one 3D-printed part*





Trend 3

**Above the clouds:  
Taming multcloud chaos**





Organizations feeling swamped by multicloud complexity have a new hope on the horizon. Metacloud sits on top of existing clouds and provides a single pane of control for businesses' various cloud platforms.



Trend 3

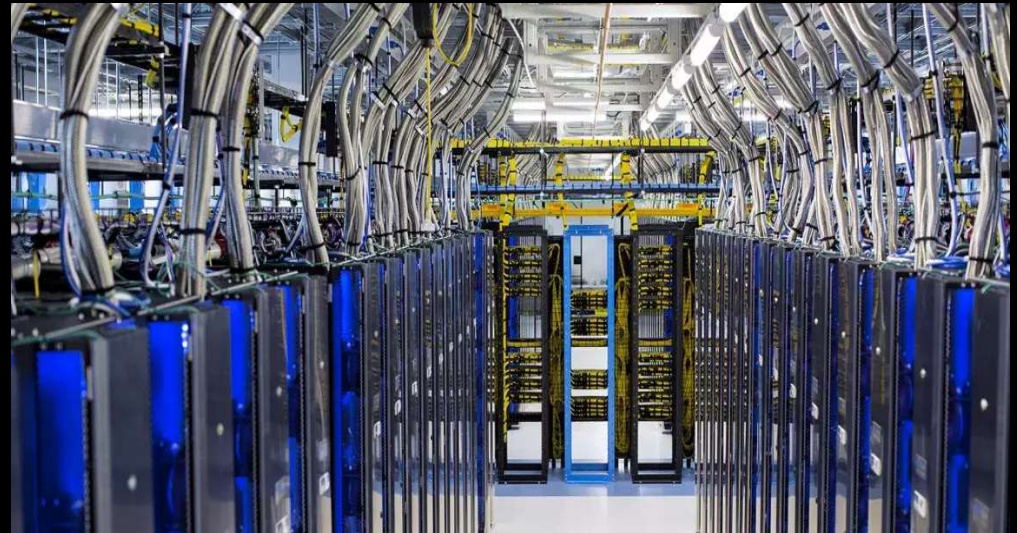
# **Above the clouds: Taming multicloud chaos**



# The future is already here...

## Faurecia's move to the cloud

- Moving to Office 365 and then to a fully Cloud-based IT infrastructure for operations, support services, engineering and other spheres
- In 2019, Faurecia started collaborating with Microsoft to build services for the Cockpit of the Future, building personalized, connected and upgradeable services
- The transition to a Cloud-based IT infrastructure ensures that Faurecia's product offer is adapted to the use cases of the future.



*“the Digital Workplace offered new possibilities in communication, mobility, conferencing and collaboration not just between colleagues but also with customers and suppliers”*





Trend 4

**Flexibility, the best ability:  
Reimagining the tech workforce**





Rather than competing for scarce tech talent, savvy leaders are prizing flexibility in their workforce and finding new methods to create, source, and retain top performers.

Trend 4

**Flexibility, the best ability:  
Reimagining the tech workforce**



The future is already here...

## VR based Trainings

- Volkswagen is using virtual reality to train more than 10,000 employees of the 'Volkswagen Group'
- Volkswagen is building their virtual reality portal, a so-called Digital Reality Hub. The employees can interact with the Hub using HTC Vive VR headset and two controllers
- Digital Reality Hub includes virtual meeting rooms, training programs, and knowledge bases.



*In virtual reality employees, can share their knowledge, continually learn and quickly implement know-hows in their work*



Trend 5

**Connect & extend:**

**Mainframe modernization hits its stride**





Trend 5

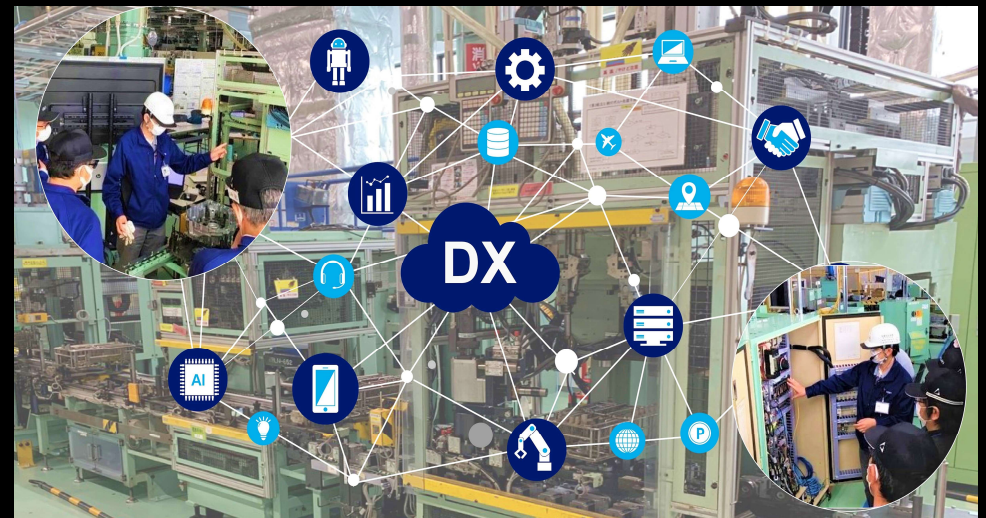
# **Connect & extend: Mainframe modernization hits its stride**

Through connections and extensions like AI-powered middleware solutions, advanced microservices applications, and refreshed user interfaces that harness the power of data, enterprises are modernizing legacy technologies and using them to drive digital transformation.

The future is already here...

## Digital Transformation at Aisin

- Aisin set up DX (Digital Transformation) Strategy Center to accelerate work process reform and new initiatives using digital technologies and to build the foundation for digital business management
- DX Strategy Center is positioned almost as independent organization with about 200+ members
- Scope is broad and includes functions like human resources, accounting, and design and development, production and supply chain



*“we have been striving to reform our business and make necessary transformations in manufacturing through the power of digital technology”*



A surreal, abstract painting with a dark, swirling background of brown, green, and blue. A large, bright, cloud-like shape in the center is composed of white and yellow. The text "Looking Ahead..." is overlaid in white. The painting has a textured, almost woven appearance, with many fine lines and fibers. In the foreground, there are dark, vertical structures that look like parts of a machine or a building.

**Looking Ahead...**



## Call to Action...

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- **Hardware to Software:** A significant change is coming – reassess product portfolio strategies and partner ecosystem
  - **Readiness for change:** Deploy foundational process and technology capabilities
  - **Current process and technology maturity:** Develop a roadmap for capability building
  - **People:** Assess people capability and initiate Re-skilling/Up-skilling of workforce
  - **Accelerated deployment:** Rely on expertise of other partners and solution providers
-



# THANK YOU

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# Appendix



## New Vehicle Sales Forecast for US and EU

### BMW Virtual Factory

<https://www.youtube.com/watch?v=g78YHYXXils&t=164s>

### Generative Design GM

[https://www.youtube.com/watch?v=Z6lfhkuY\\_kl](https://www.youtube.com/watch?v=Z6lfhkuY_kl)