

VOLKSWAGEN

AKTIENGESELLSCHAFT



VOLKSWAGEN
FINANCIAL SERVICES
THE KEY TO MOBILITY

3D-Printing

How to unlock the full potential for the Automotive industry

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Introduction: Two Drivers of AM

PROCESS INNOVATION

“flexibility in volumes & location”



Prototyping



Tools/molds



Spare/Repair



Series parts

PRODUCT INNOVATION

“new design freedom”



Complex designs



Functional integration



Customization



Multi-material



Successful applications at Volkswagen Group

PROCESS INNOVATION: “flexibility in volumes & location”

Rapid Prototyping
(e.g. multicolor printing)



Printed jigs & fixtures
(e.g. on-site desktop FDM)



Spare parts
(e.g. water connectors W12)



Development
(e.g. I.D. R Pikes Peak)



Tools and Molds
(e.g. forming or casting)



Classic parts
(e.g., for Porsche 959)



PRODUCT INNOVATION: “new design freedom”

Low volume series parts
(e.g. filler cap “URUS”)



Functional integration
(e.g. rotor shaft study)



Lightweight components
(e.g. frame)



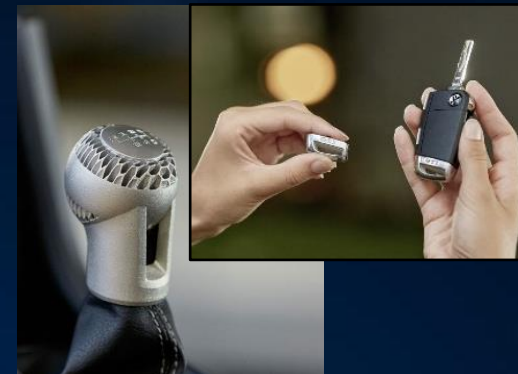
High performance parts
(e.g. Chiron brake caliper)



Multi-material
(e.g. frame study)



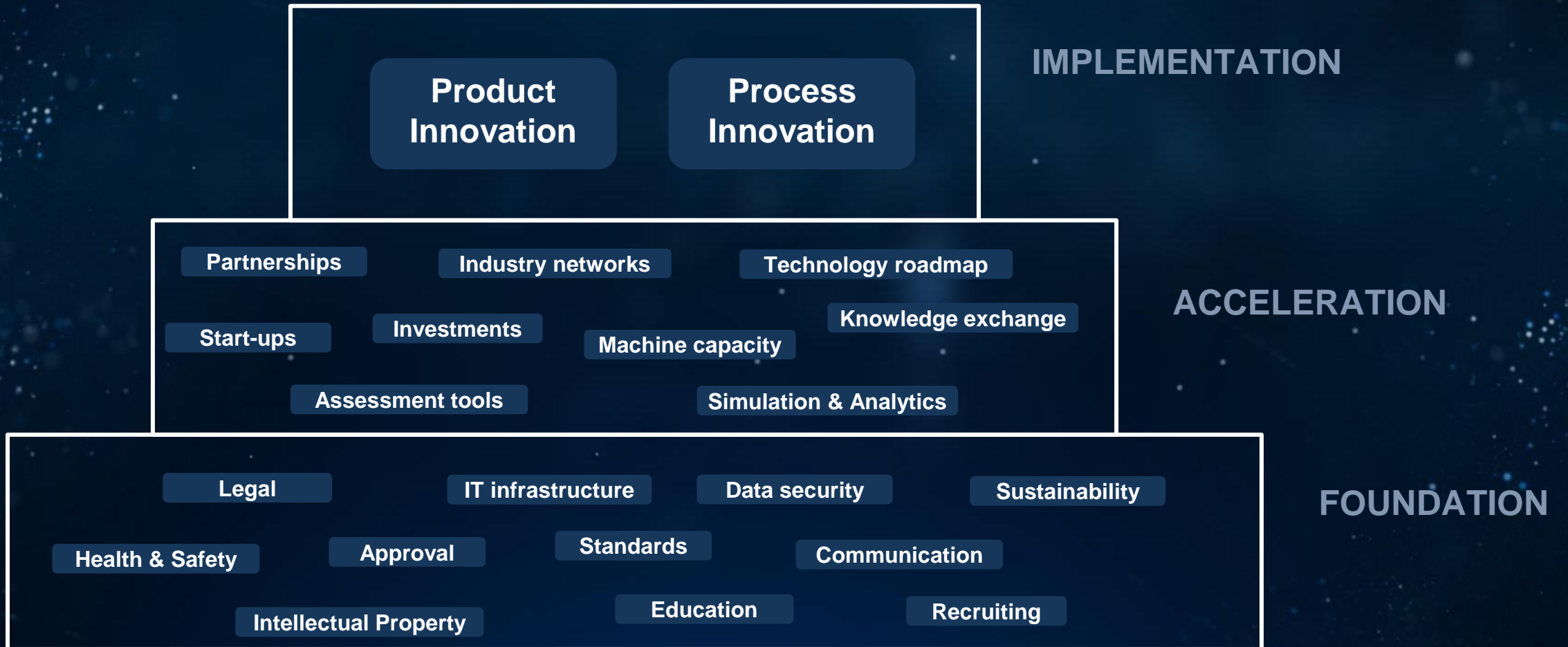
Customization
(e.g. shift knobs or keys)



Complex designs
(e.g. Divo fin lights)



Realizing tangible 3DP potential requires a holistic approach





Connecting capacity towards AI

Connecting systems and collecting data is key

AI optimized processes



Sensor fusing



Deep learning



AI

Optimized decentralized capacity



Do not think of **AM** as an end in itself — Understand it as part of a data driven world.

Today

AM is ...



... known for process innovation e.g.,
prototyping applications



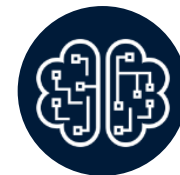
... used for first applications within
product innovation

Vision

AM will be ...



... an enabler of agile development
& optimization of products



... the key technology to physically
realize AI optimized designs

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Thank you for your attention!



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