

# PARTS TRACEABILITY FOR REACTIVE QUALITY MANAGEMENT: DIGITAL CONTINUITY AS SUCCESS FACTOR



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# TRACEABILITY OF PARTS ensures responsiveness in case of issues in the market.

**OEM 1** Recalls two types to Address a Safety Concern

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BREAKING

**OEM 3** Announces New Recall: Over 683,000 Vehicles Affected In A Week

**OEM 2** Issues New Recall: Nearly 500,000 Vehicles Affected In Last Month

1,5 Millionen Autos betroffen: Großer Rückruf bei **OEM 4**

Betroffen sind die Marken [redacted] selbst: Der [redacted] Autobauer muss weltweit über eine Million Fahrzeuge in die Werkstatt rufen. Der Grund für die Aktion und die Folgen für die Gewinnerwartung.

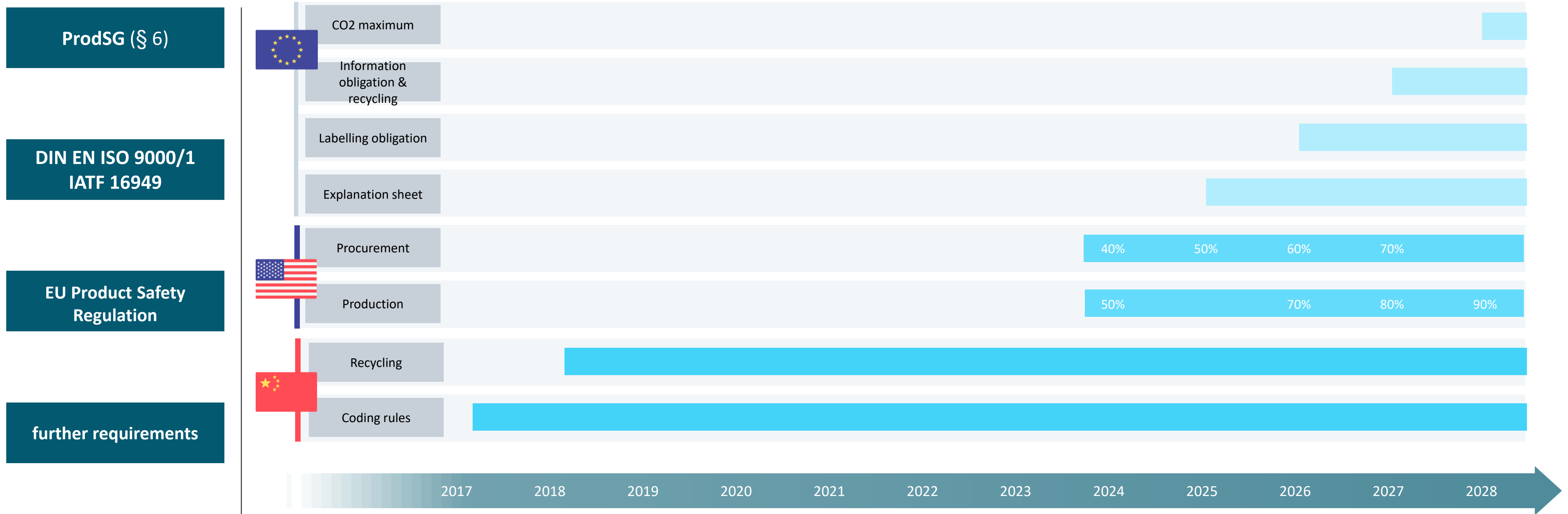


**Supplier** Airbag Safety Recall

The [redacted] Airbag Safety Recall is the largest recall in automotive history, involving 19 automakers and tens of millions of airbags. Defective airbags can cause serious injury or even death if not repaired immediately.



# TRACEABILITY is becoming increasingly important...





# Driven by LAWS & STANDARDS traceability of parts is already implemented in automotive supply chains



*The purpose of traceability is to **support identification** [...] for **product** received by the customer or in the field that may contain **quality and/or safety-related nonconformities**.*

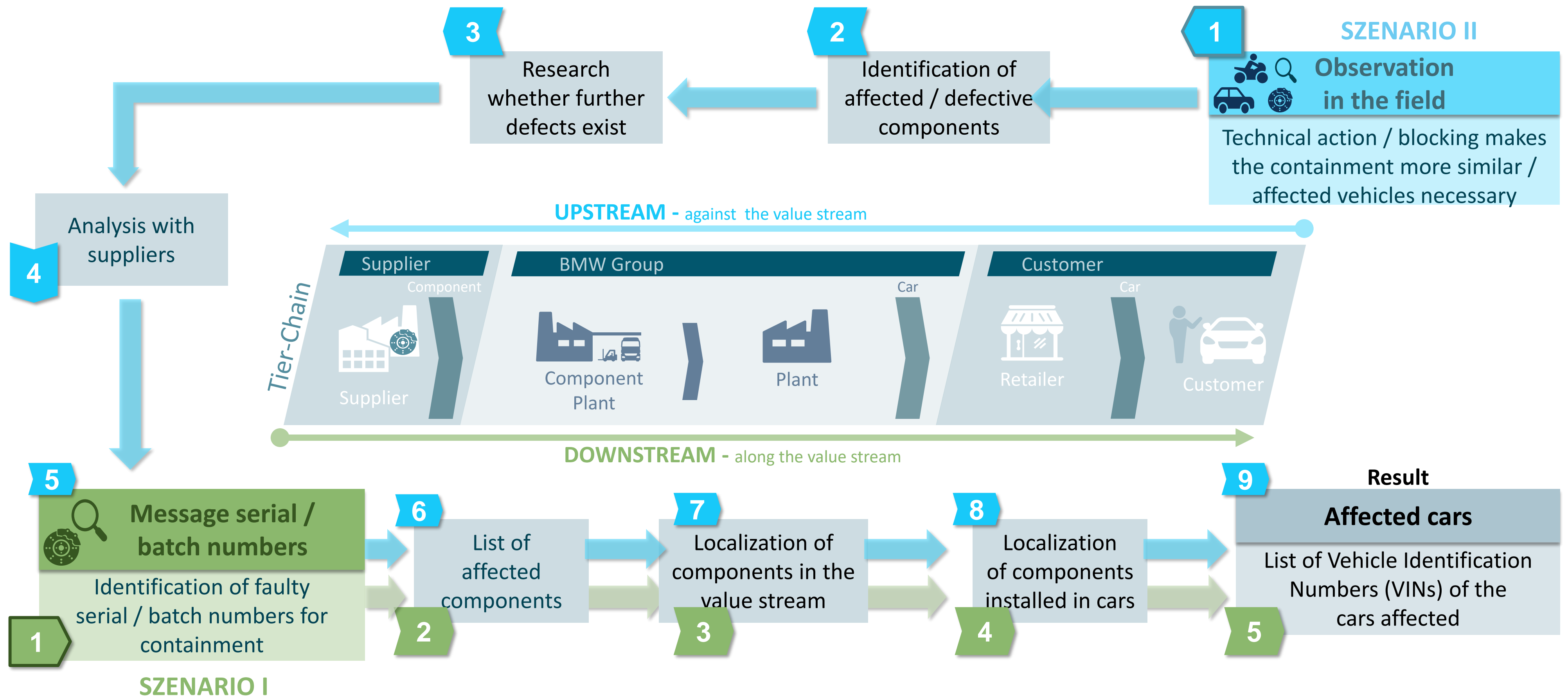
*Example IATF 16949*



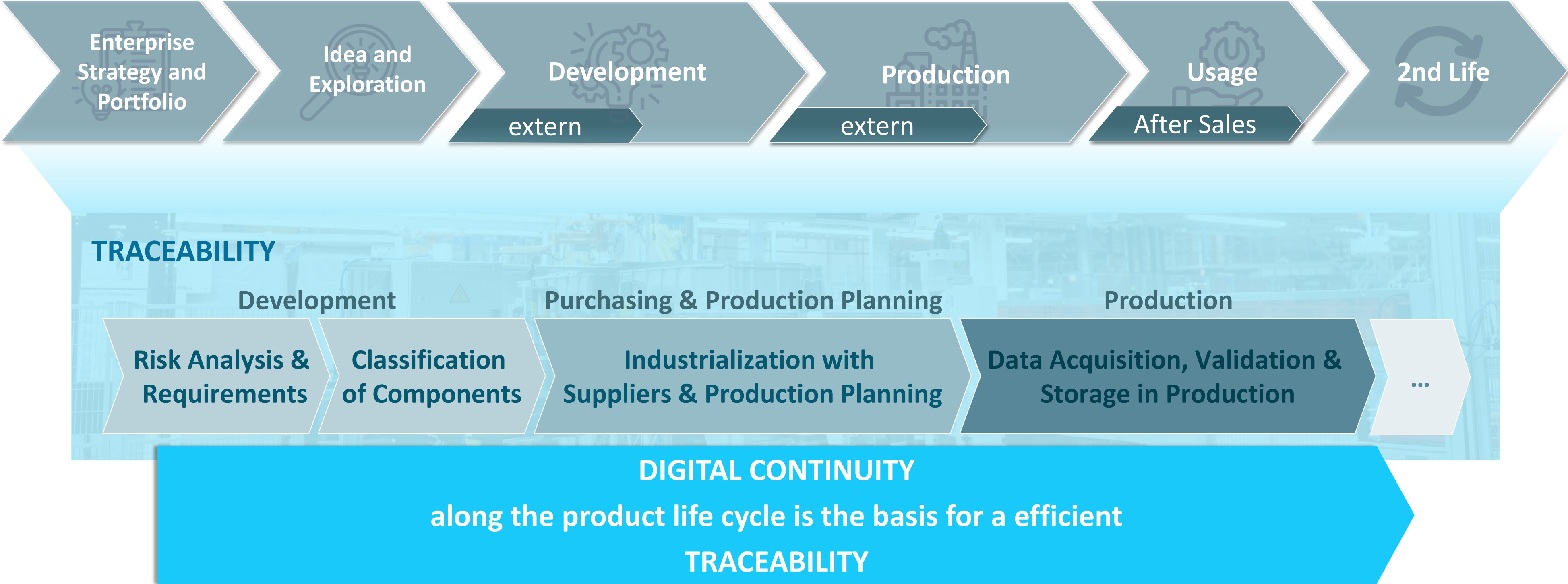
**Opportunities of DIGITALIZATION  
are to be exploited!**



# The AIM of TRACEABILITY OF PARTS is to be able to re-act in case of a non-conformity suspicion resp. to identify suspect products.

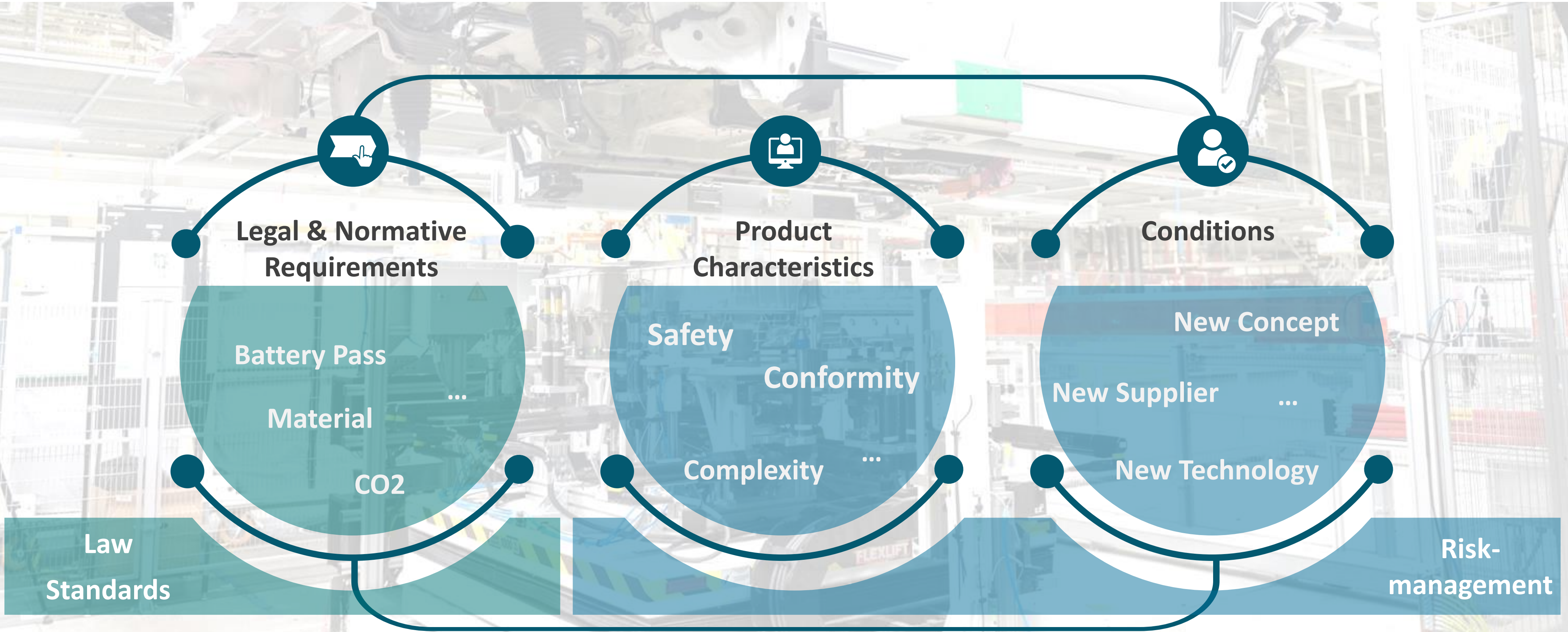
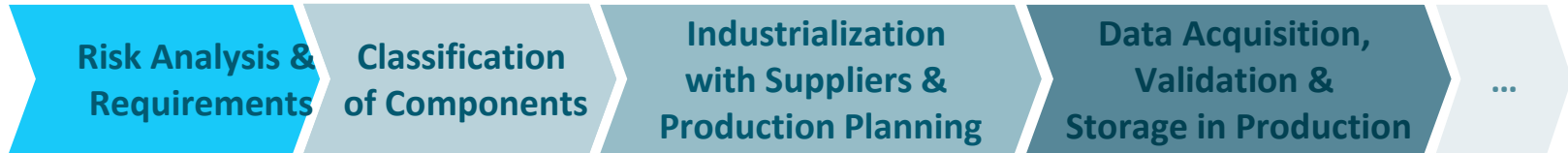


# The successful implementation of TRACEABILITY OF PARTS requires ACTIVITIES along the entire product life cycle.



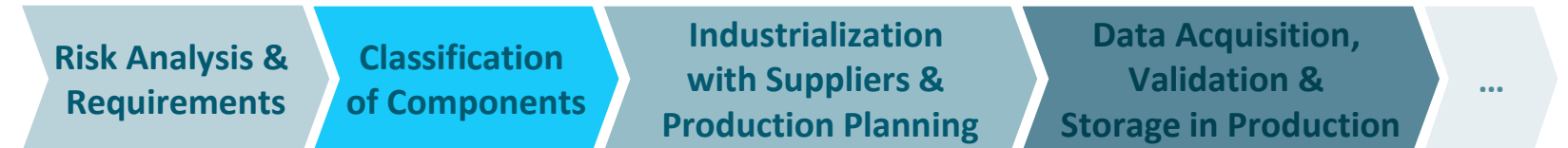


# Three GENERAL CRITERIA define the need for a specific part to be traced along the value chain.

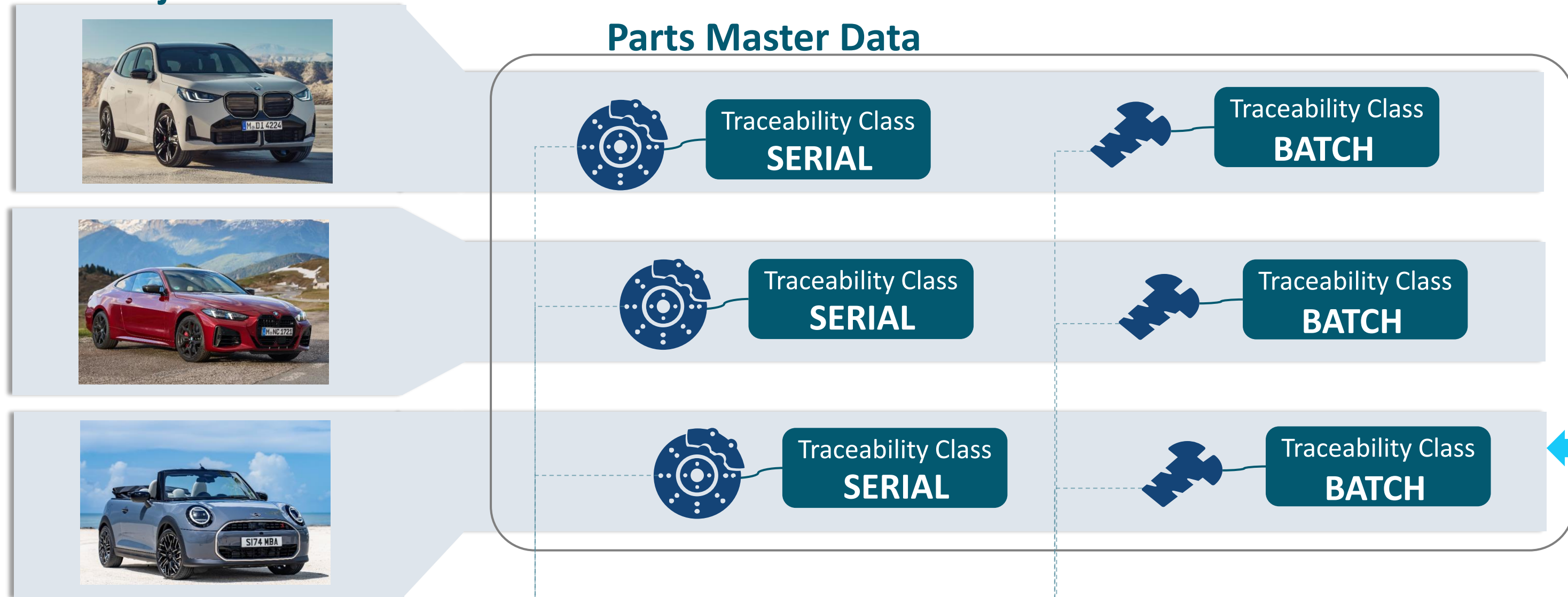




# CLASSIFICATION of components is the first step for an end-to-end data based process.

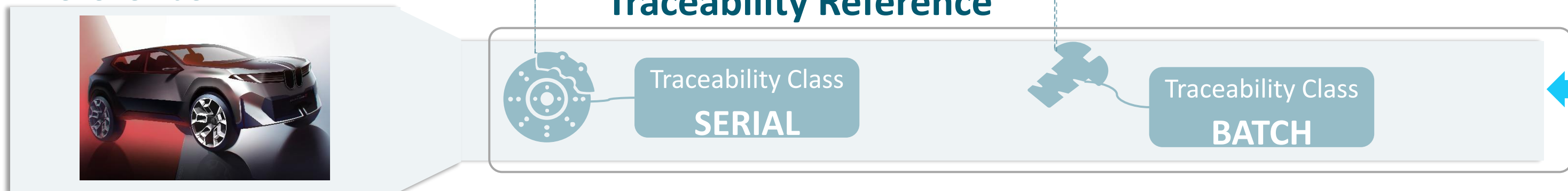


## Car Projects



Traceability classification as mandatory attribute in the parts master data

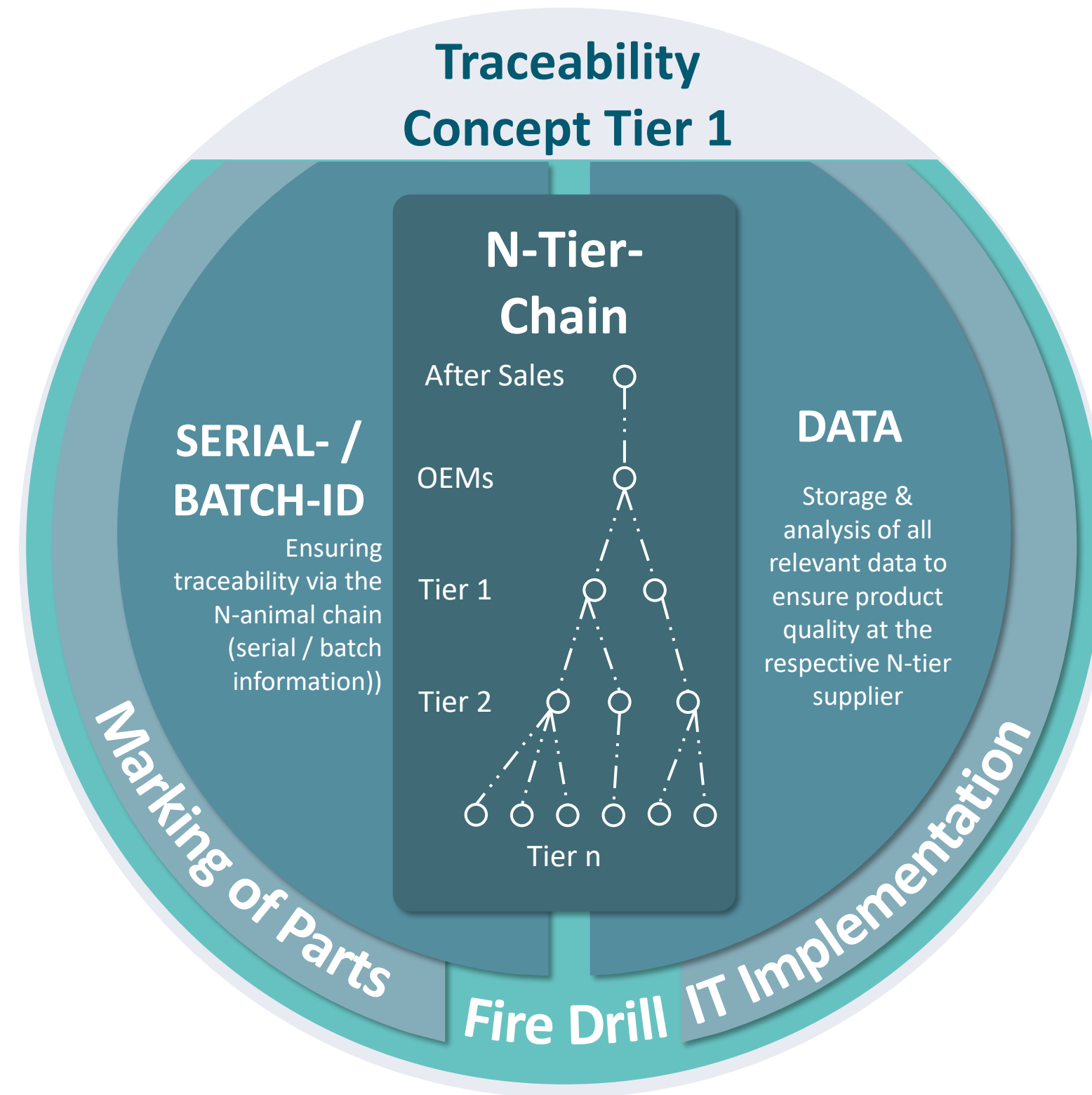
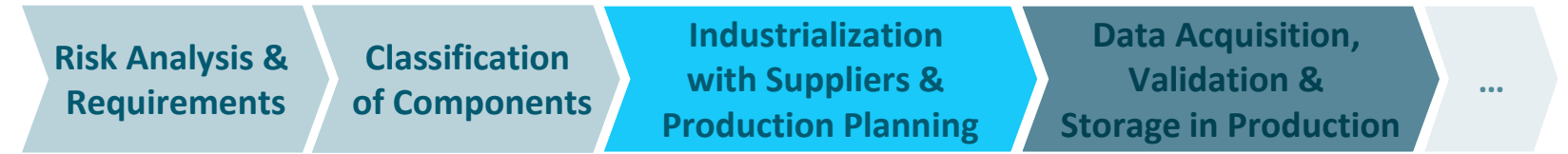
## Reference



**AI-based Plausibility Check**

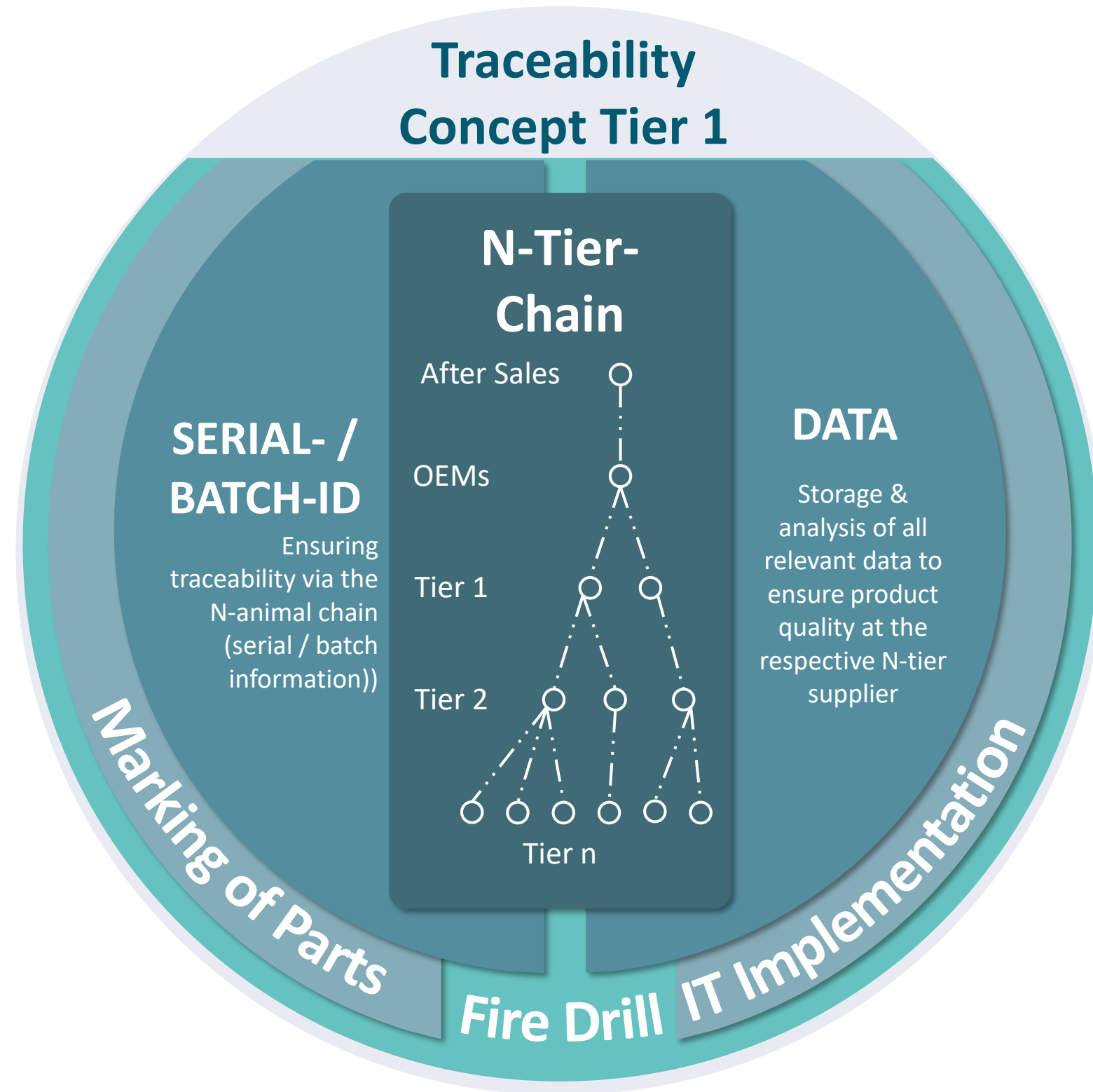
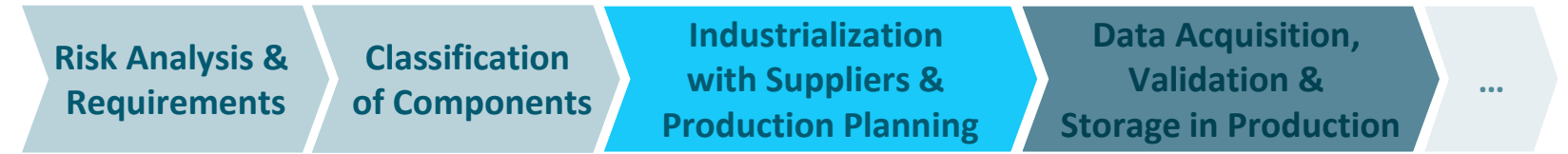


# DATA need to be provisioned systematically along the entire n-tier chain.





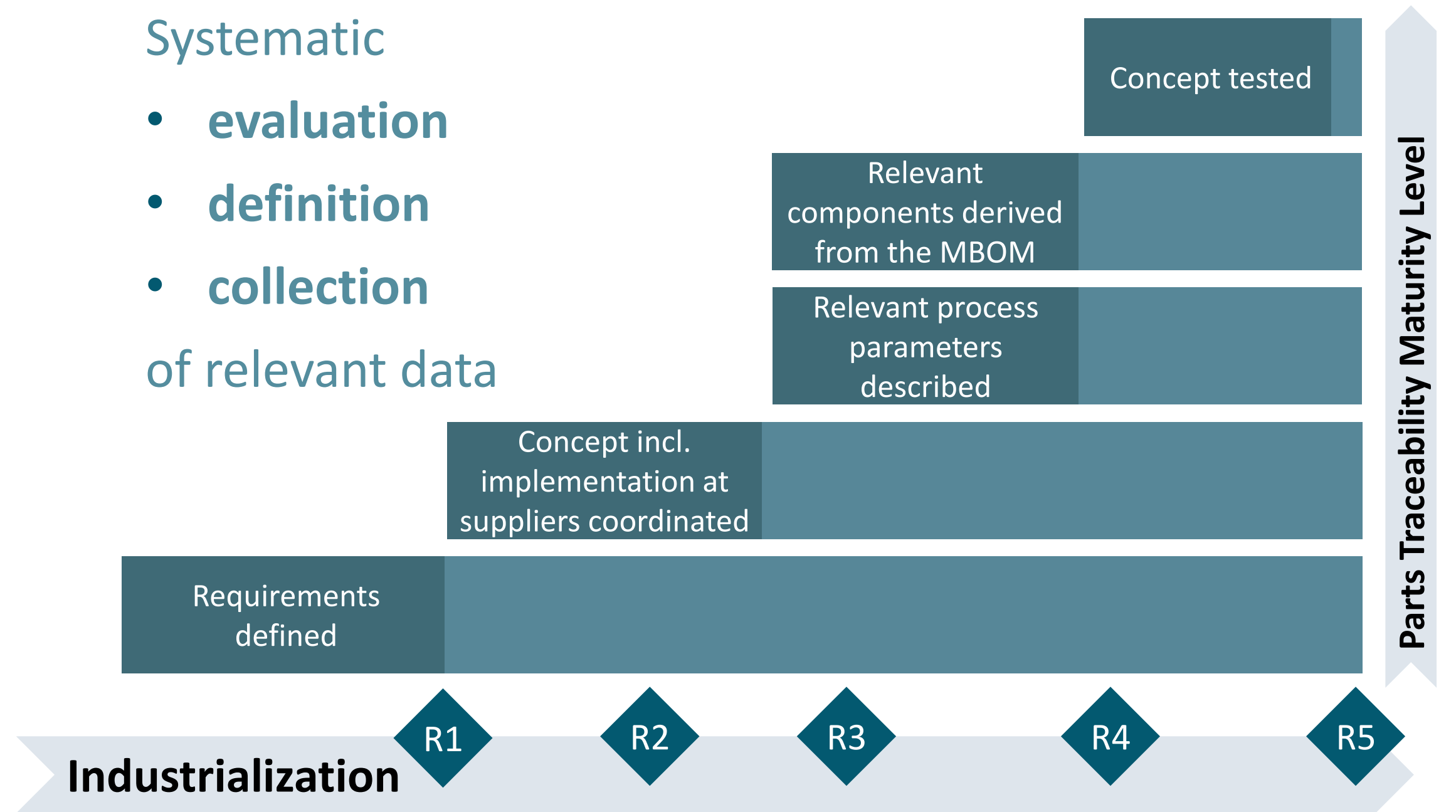
# DATA need to be provisioned systematically along the entire n-tier chain.



Systematic

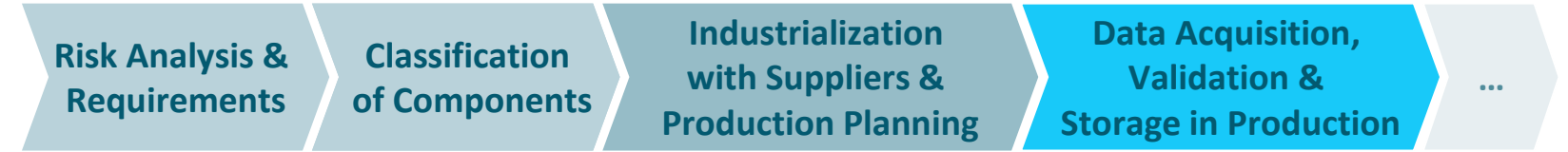
- evaluation
- definition
- collection

of relevant data



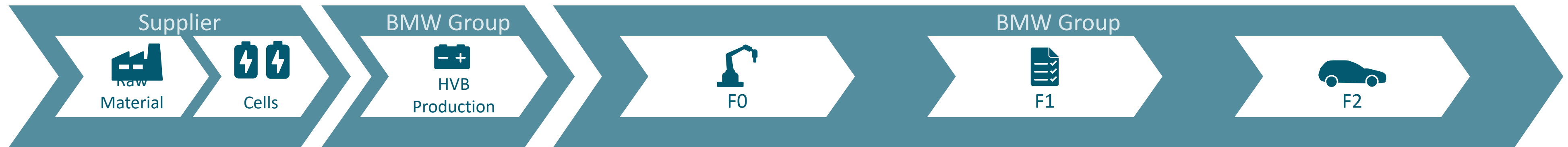


# Traceability data are collected in the DIGITAL VEHICLE FILE along the production chain.



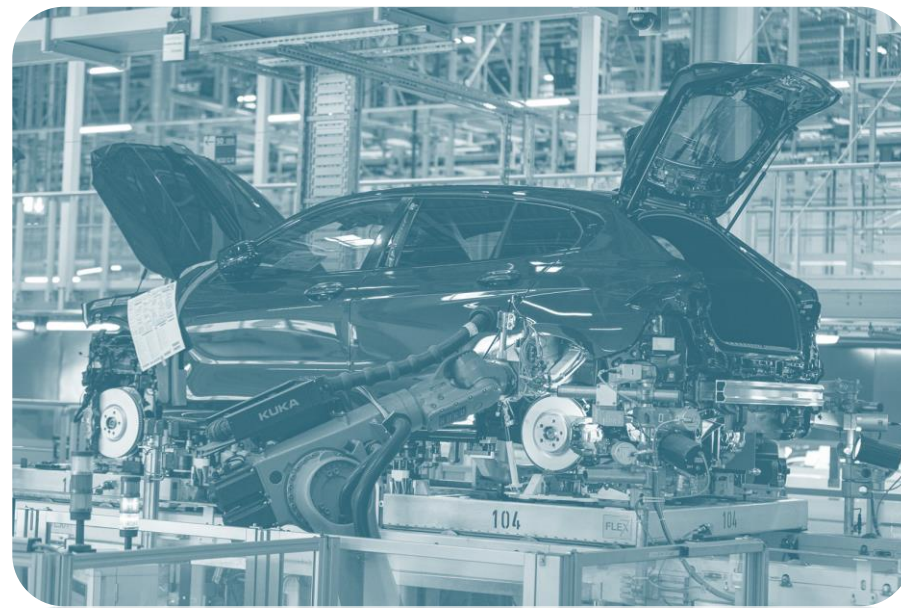
### Digital Vehicle File

- combines data from different source systems in a standardized and VIN-related semantic
- enables automated data analytics for traceability



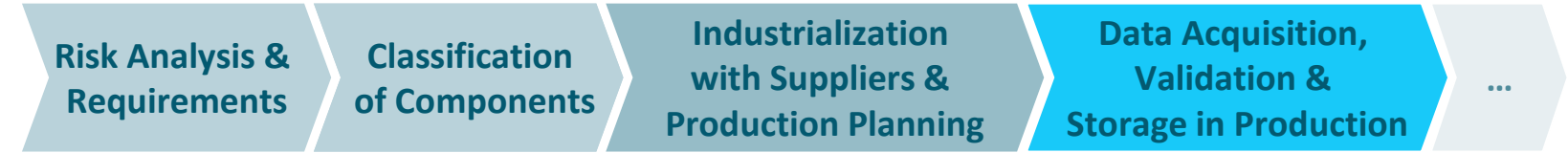
Component Production

Pre- & Main Assemblies





# DATA QUALITY is ensured by digital checks along the production chain.



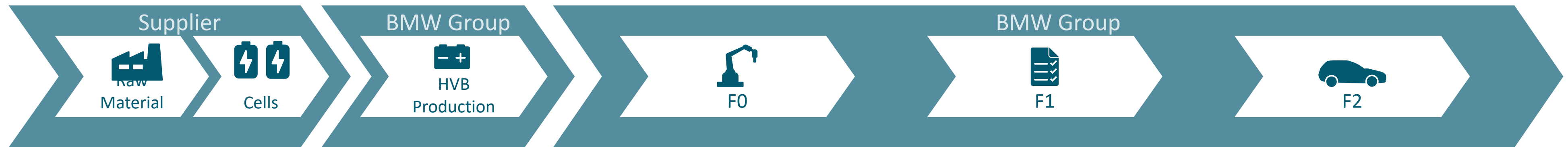
### Digital Vehicle File

- combines data from different source systems in a standardized and VIN-related semantic
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### Digital Conformity Check

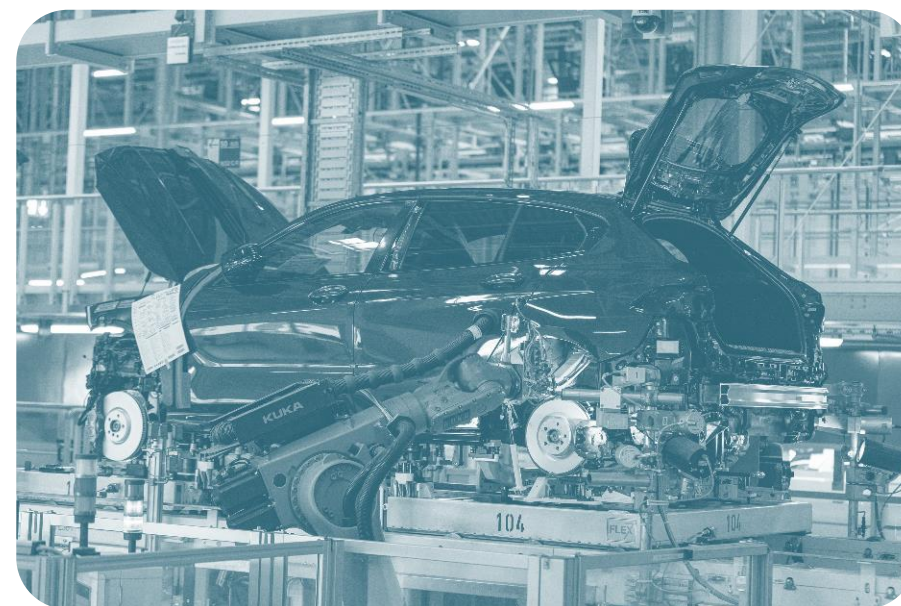
*0-Error-Principle*

- checks relevant data on:
  - Completeness – Consistency – Conformity – Context**
- is used already parallel to the ramp-up



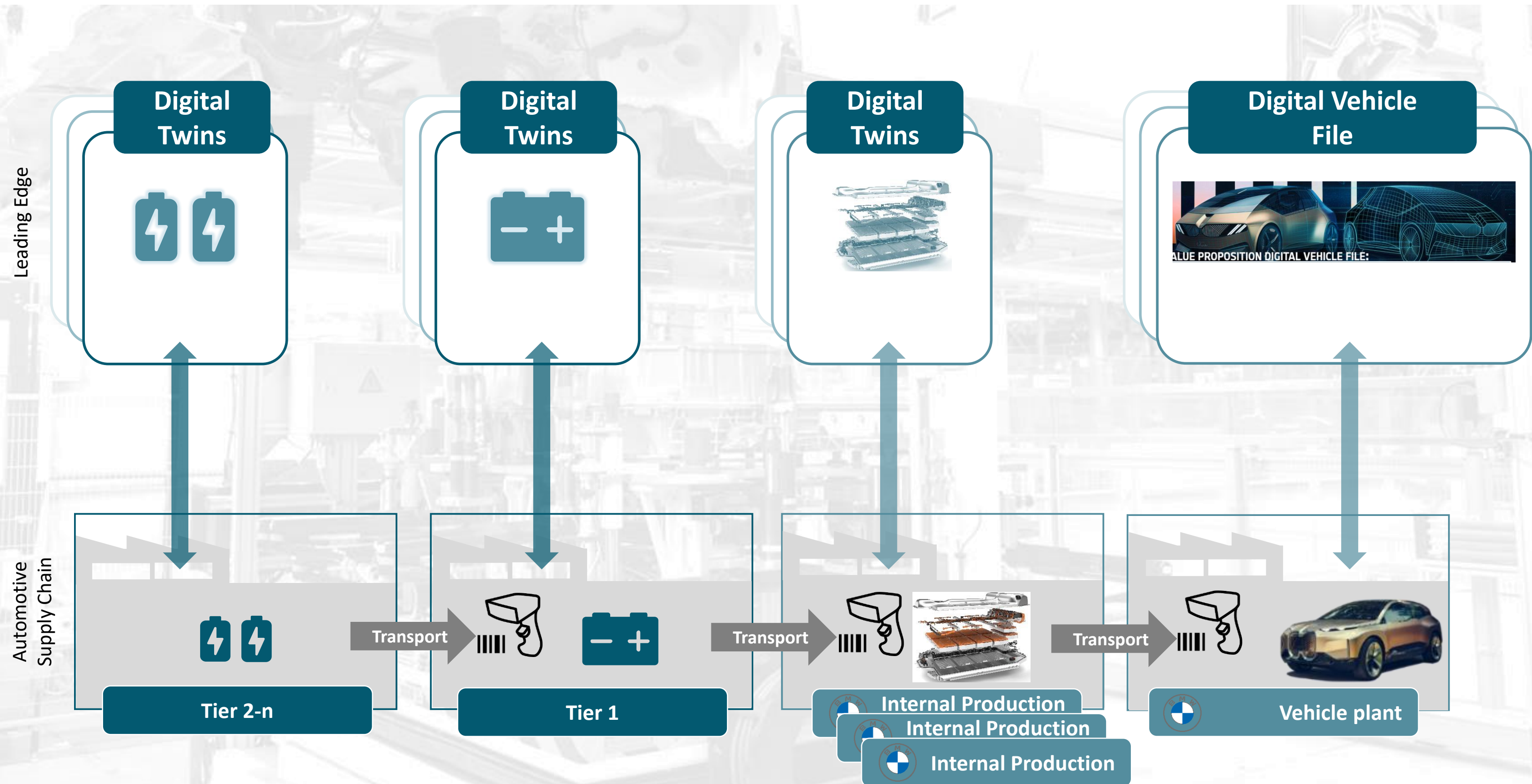
Component Production

Pre- & Main Assemblies



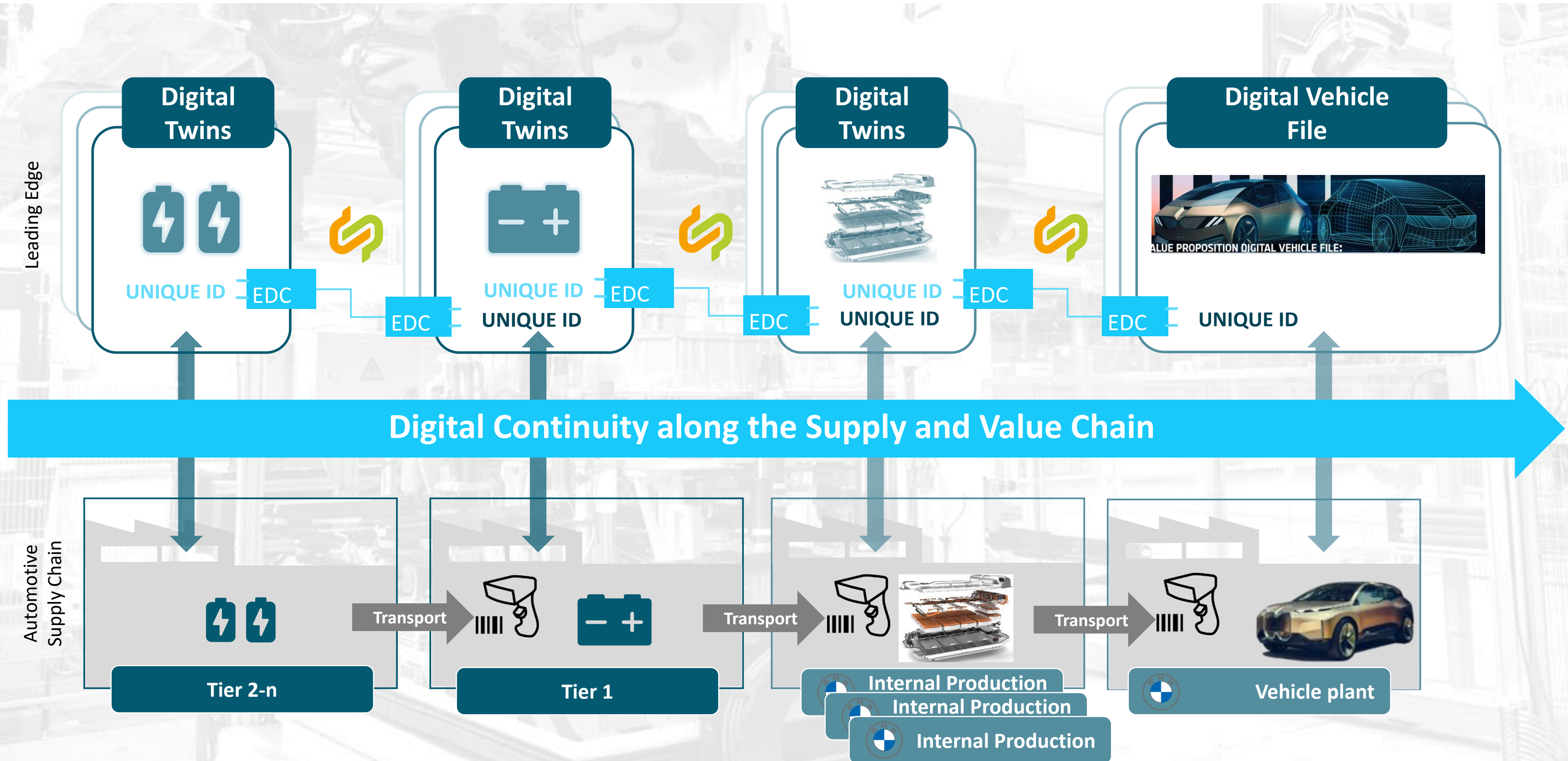


# DIGITAL TWINS ensure digital continuity for TRACEABILITY OF PARTS for each single car of the BMW Group.

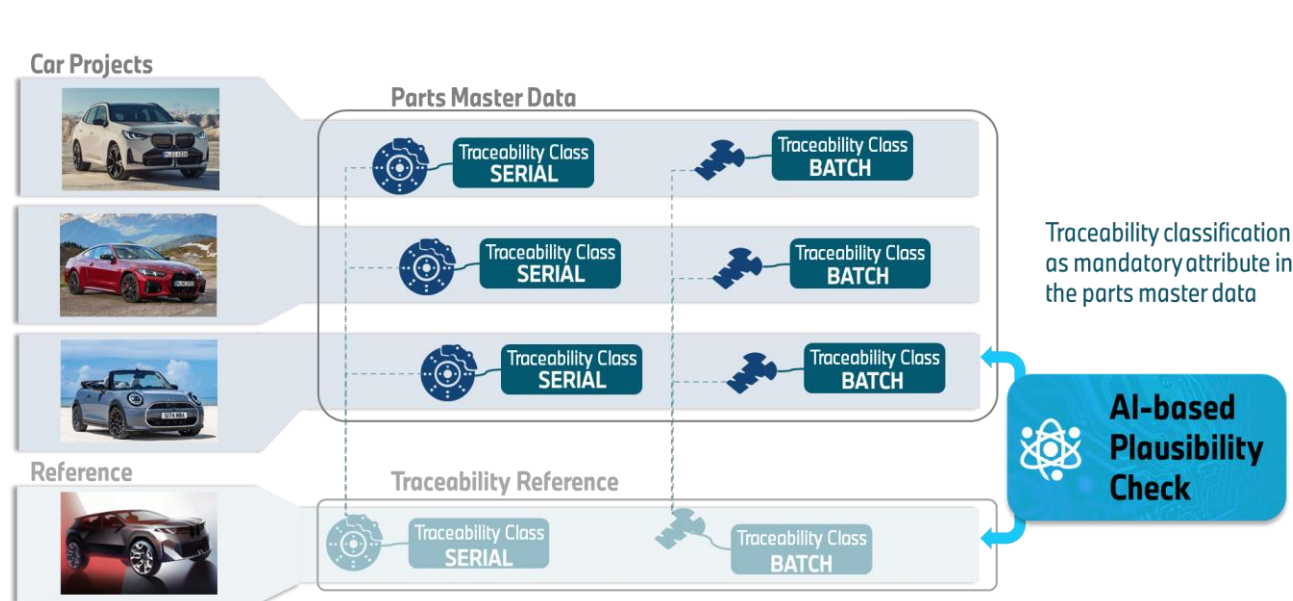




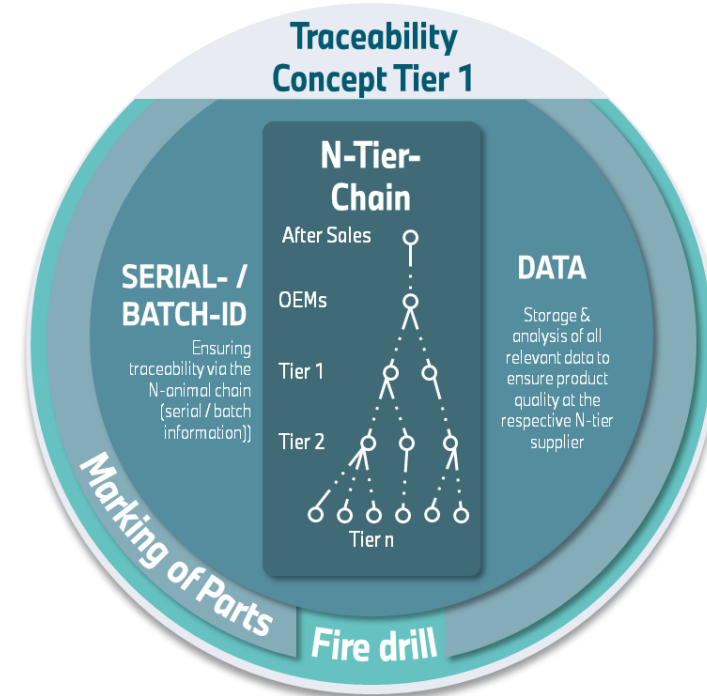
# In case of a non-conformity suspicion DATA is exchanged digitally and automated via Catena-X in the future.



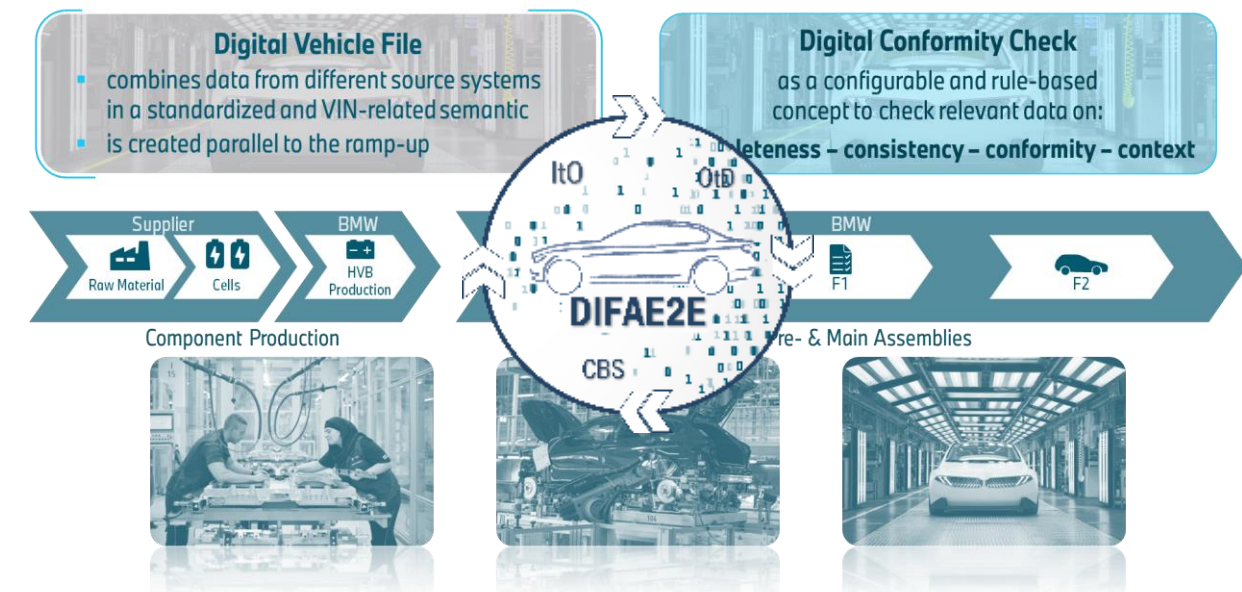
# SUCCESS FACTORS by digital continuity for ensuring precise TRACEABILITY of PARTS for each single car.



**Traceability Classification**  
for all parts in the  
data backbone



**Systematic Data Provision**  
along the supply chain  
When needed: **Data Transfer** via



**Automated Conformity Check & One Single Source of Truth**  
based on the  
Digital Vehicle File



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THANK YOU FOR YOUR INTEREST!

