



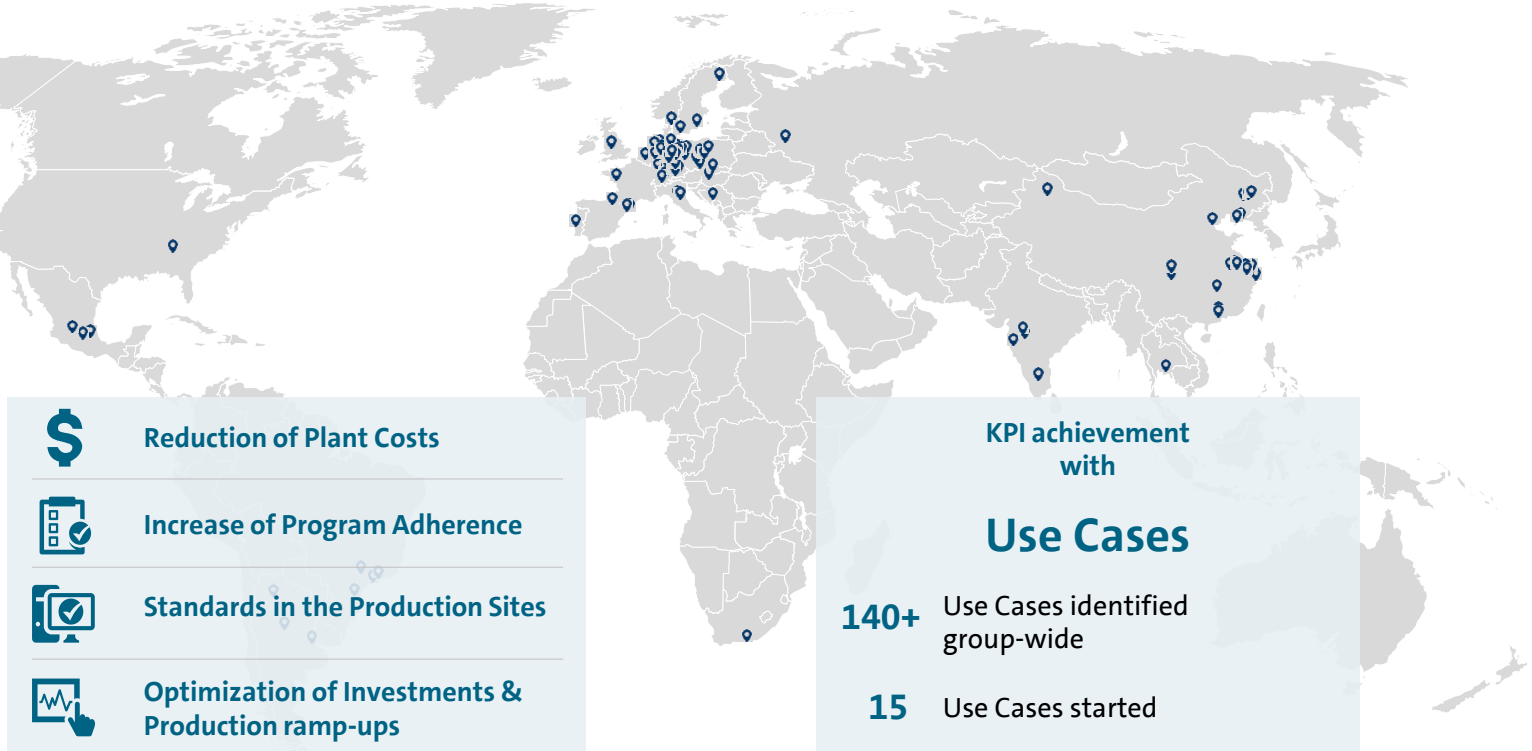
# Industrial Cloud

Managementsitzung – 23<sup>rd</sup> September, 2019

## Volkswagen @ Glance

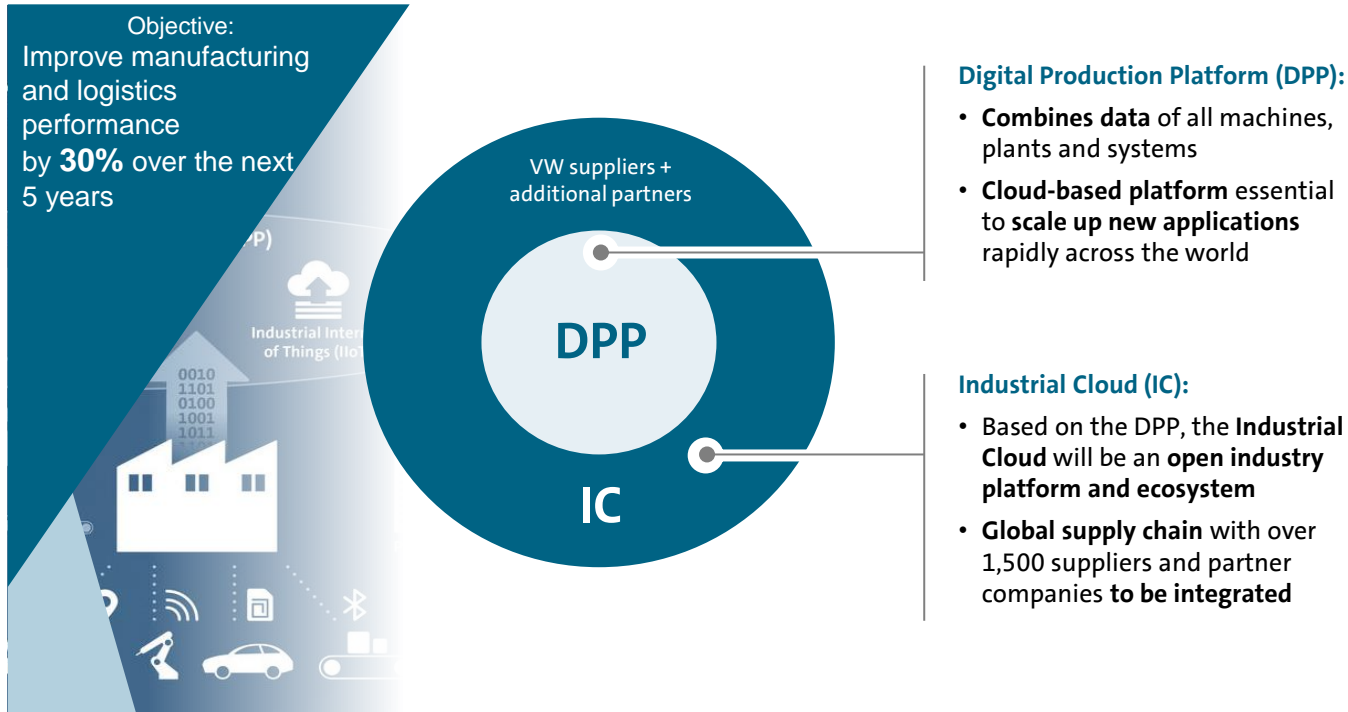


## Focus on all 122 Production Sites worldwide



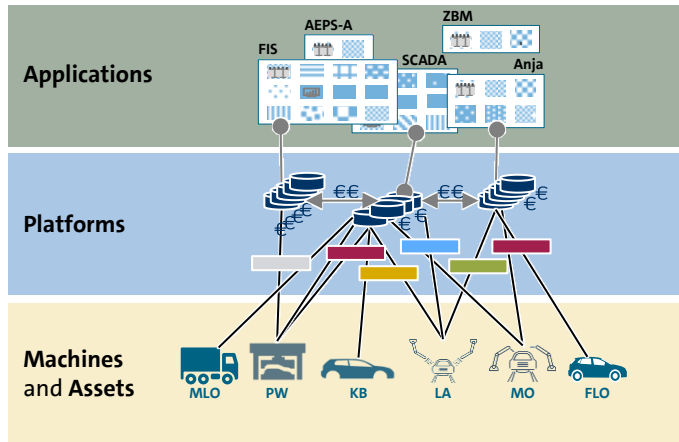
## Volkswagen Industrial Cloud


### Digital transformation of production and logistics



# Digitalization Roadmap Production & Logistics enable significant sustainable savings and fulfill the goals of the strategy

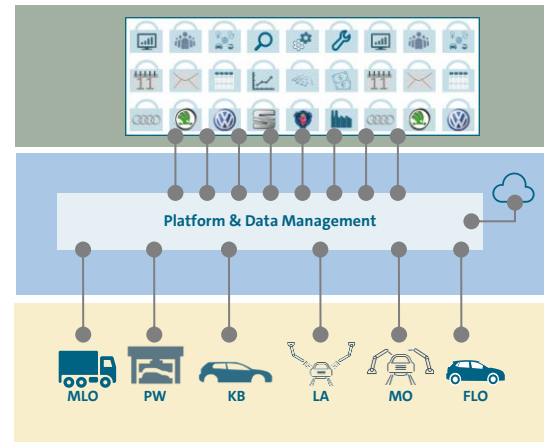
## As-Is: fragmented IT/OT landscape



 Provider specific platforms, e.g. ABBility, Mindsphere, etc.

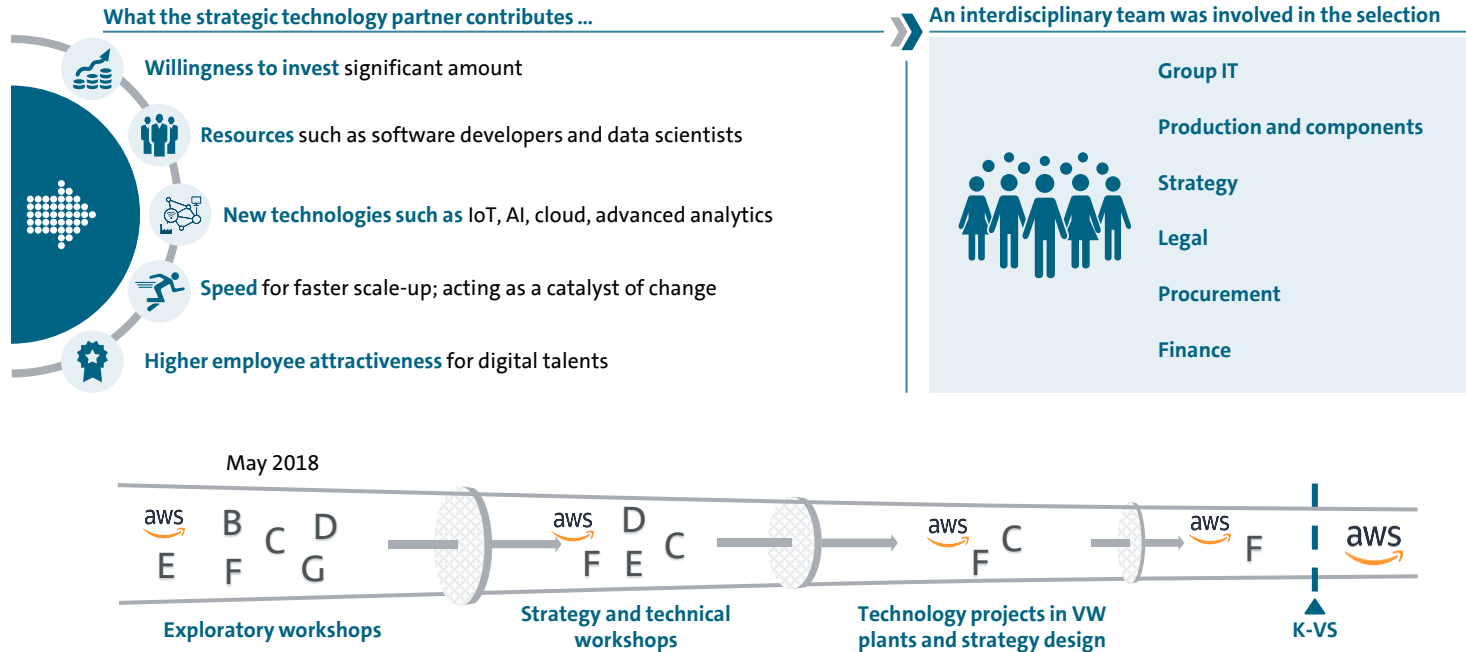
Complexity 	Development-effort 	Personnel costs 
Consolidation 	Asset flexibility 	Stability Production 

## Goal: integrated platform architecture

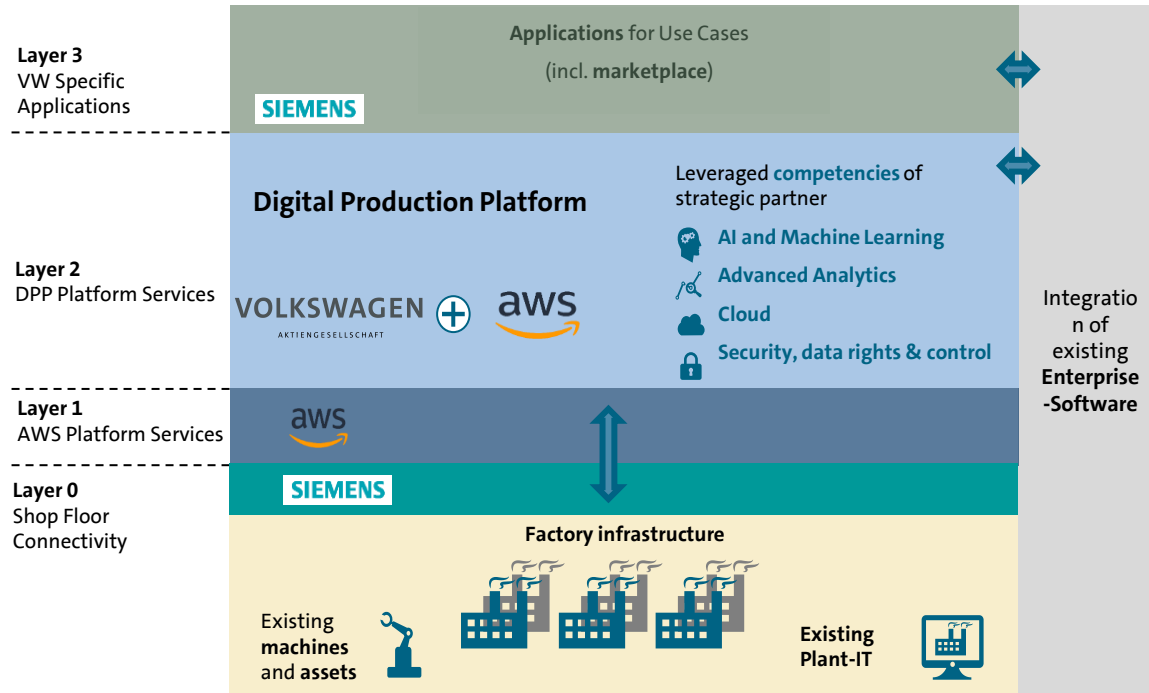


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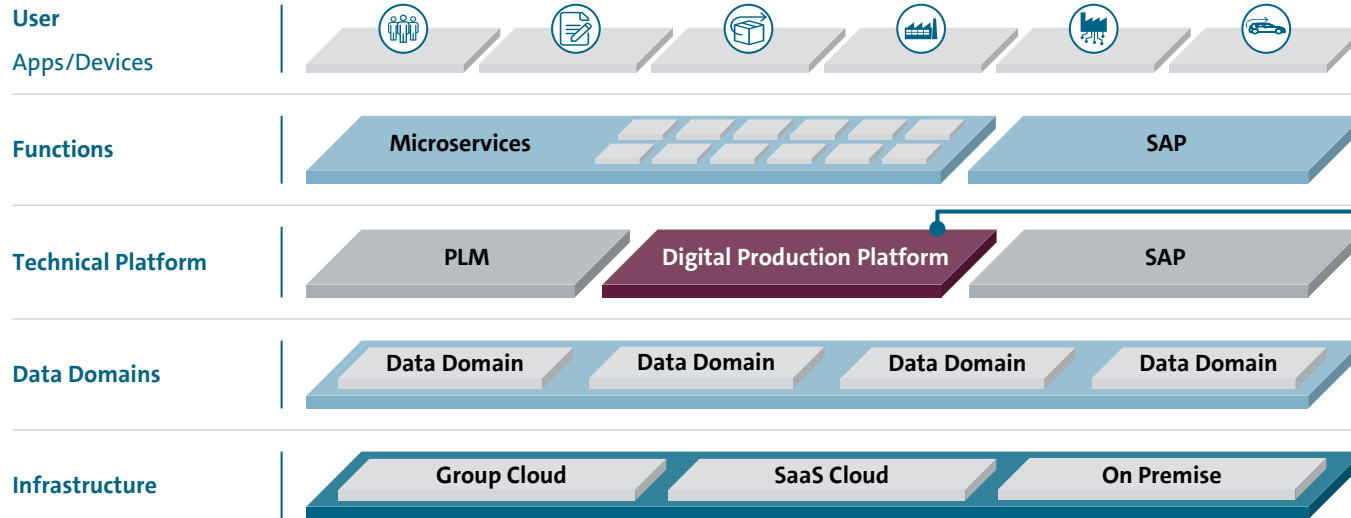
## Long-term strategic partnership with AWS



## High-Level partner key contributions to the DPP



## A uniform architecture for all brands and plants is needed



### Partnerschaft mit AWS

#### Strategic Partner needed

- Scalability
- Sustainable technology standards
- Implementation speed
- Flexibility
- Culture

## Introducing AWS Outpost



AWS-designed **Nitro infrastructure** for the same security and performance

**Automatically monitored and updated** as part of AWS regions

**Single point** of service and support

Build once, deploy **anywhere.**

## AWS Outpost for Manufacturing Automation

- Outposts runs AWS infrastructure , APIs and services on-premises for easy integration with AWS cloud deployment
- Choice of EC2 instances and local storage for fast computations and real time response
- As-a-service model eliminates the overhead of managing small footprint datacenters
- Connect to regional AWS services such as AWS S3, AWS DynamoDB for data aggregation across environments
- Use AWS CloudFormation and AWS CodeDeploy in AWS cloud to build once and deploy to all sites



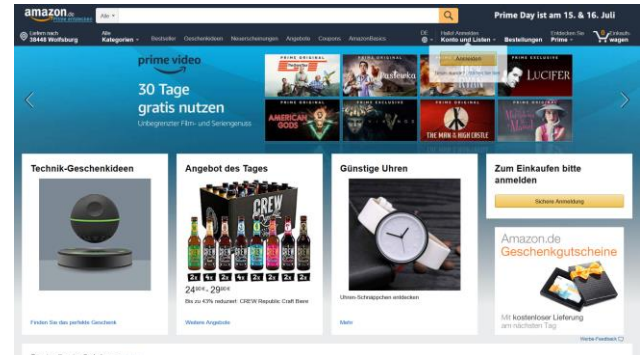
## AWS and Volkswagen contribute key expertise and resources in a long-term partnership



> 80 years



> 20 years



Source: <https://www.volkswagenag.com/de/group/history/chronicle/1945-1949.html>  
<https://www.volkswagenag.com/de/news/stories/2018/11/the-beetle-history-of-a-cult-car.html>  
<https://www.newfangled.com/permanent-transition/> <https://www.amazon.de/>

The implementation of the DPP and the Industrial Cloud is based on a common vision and a close collaboration between all involved parties

„Together with  
AWS we will  
develop the  
leading Industrial  
IoT Platform for  
the automotive  
industry“



Joint decisions as strategic partners



Joint team



Joint innovation approach and leadership principles



Agile working methods

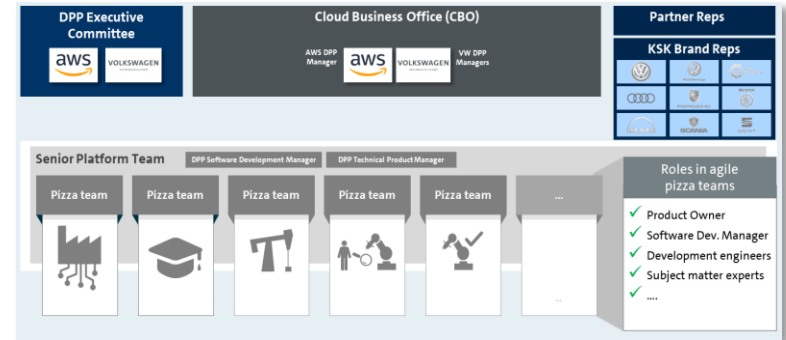


Transparent and structured processes



Joint workshops for knowledge- and team building

## The cooperation between VW and AWS is based on Working Backwards jointly agreed tenets



Unique Requirements + Amazon Culture of Innovation + VW Technical Knowledge =

### Delivery Tenets

*These are our delivery tenets, unless you know better*

Culture	Technology
1. We will always <b>make decisions jointly</b> as strategic partners	1. We will use a <b>microservices architecture</b> for all use cases
2. We will prioritize activities that involve working with <b>end users</b>	2. We will address <b>simple/re-useable</b> use cases and factories first and increase complexity over time
3. All DPP stakeholder will use <b>AWS innovation mechanisms</b> and <b>Leadership Principles</b>	3. All DPP stakeholders will <b>use agile</b> and iteratively release new features



**Thank You !**