

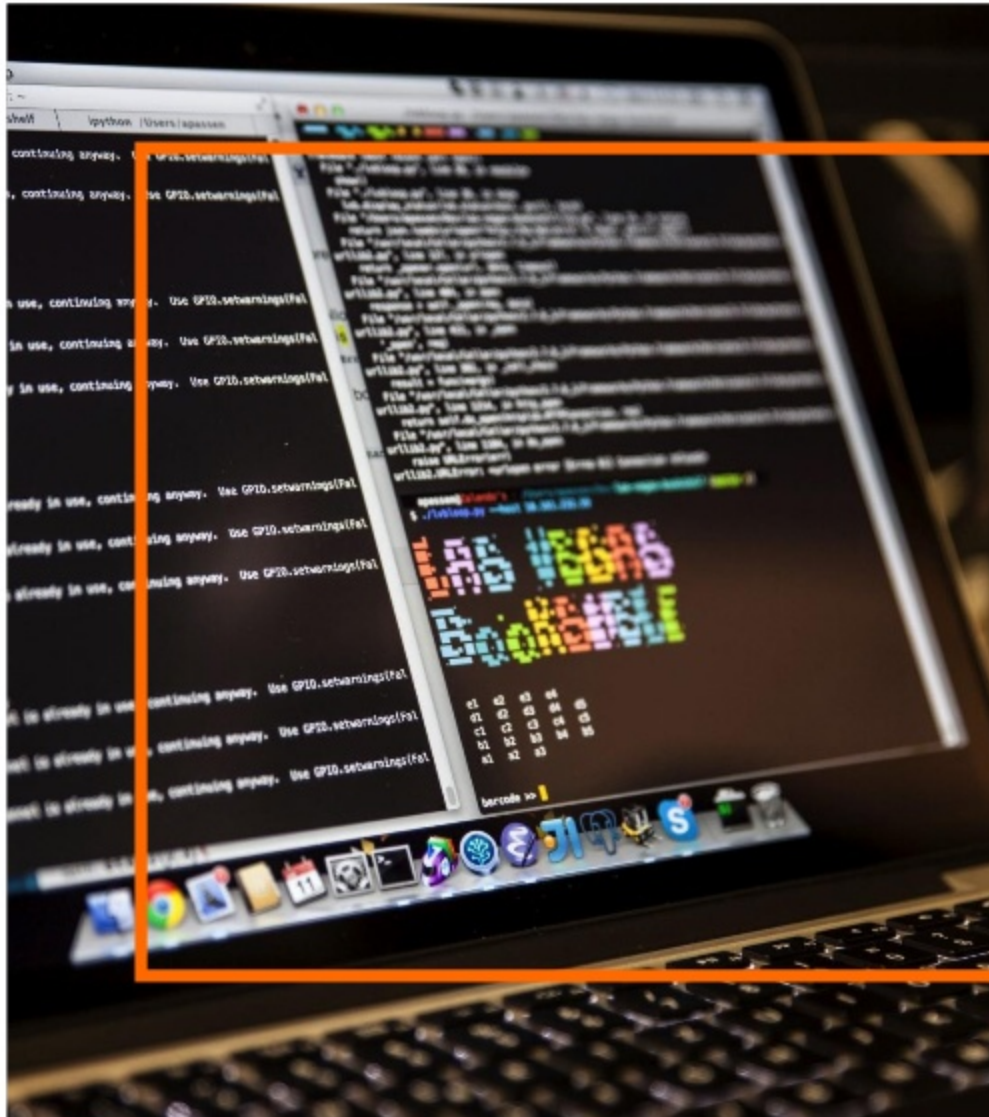
Fashioning the Future of AI / ML

Kshitij Kumar,
VP Data Infrastructure
Zalando SE
Kshitij.Kumar@zalando.de

A photograph of a sailboat on the water, viewed from the front. The mast and rigging are visible, and the sails are partially unfurled. The water is dark blue with some whitecaps. The quote is centered over the image in white text.

I CAN'T CHANGE THE
DIRECTION OF THE WIND,
BUT I CAN ADJUST MY SAILS
TO ALWAYS REACH MY
DESTINATION

Jimmy Dean



WE DRESS CODE



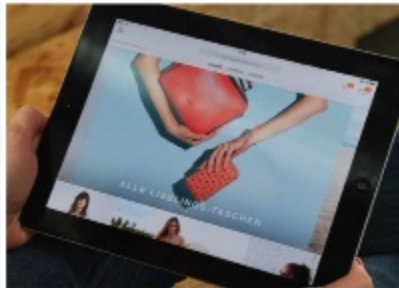
ZALANDO OFFERS A SUCCESSFUL AND CURATED ASSORTMENT

> 300,000

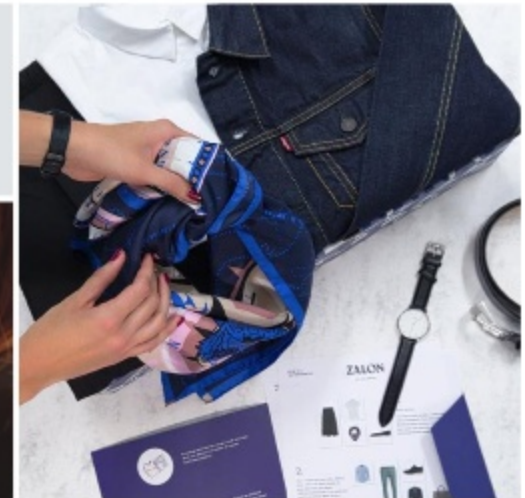
articles from

~ 2,000

international brands



**HIGHLY
EXPERIENCED**
category management



16 private
labels



LOCALIZATION
of the assortment

> 500
designers
& stylists



**CURATED
SHOPPING**
with Zalon

ZALANDO AT A GLANCE (AUGUST 2018)

~ 4.5 billion EURO
revenue 2017

> 200 million
visits per month

> 24 million
active customers

> 300,000
product choices

> 15,000
employees in Europe

> 75%
of visits via mobile devices

~ 2,000
brands

17
countries

ZALANDO – A PLATFORM STRATEGY



Ready, set, check: Be quick and save 15% off almost everything with the code: HERBST15

KIDS

zalando

xx Sport Accessories Underwear Premium Brands Sale %



celio®

CELIO

MUPRI

59,95 €

ADD TO WISH L

Colour: marine



CHOOSE YOUR L

✓ Standard deliver

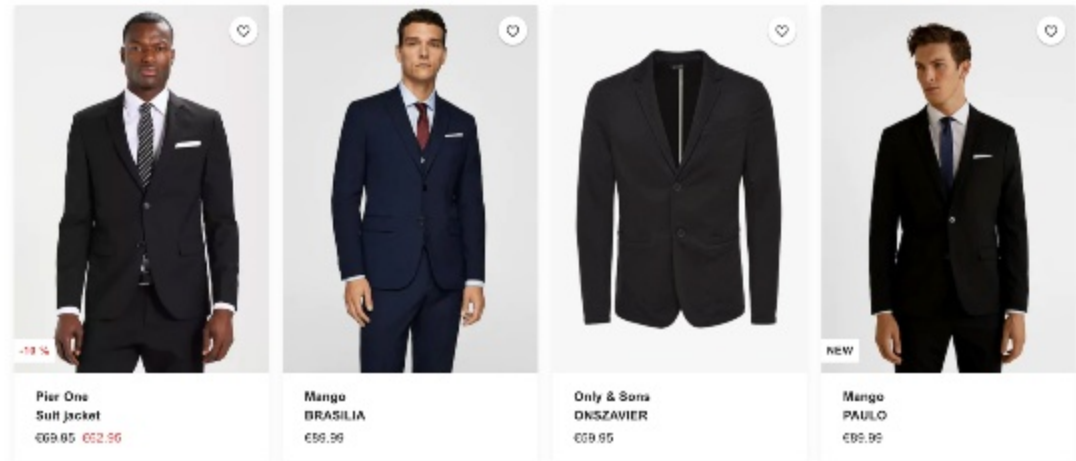
✓ Express deliver

AI Driven Customer Experience

ML driven real-time recommendation engine

Similar items

[See more >](#)



People who browsed this style also browsed these other styles...



Shop the look

Blazer jacket CELIO
Tie KIOMI
Formal shirt Calvin Klein
Belt Lloyd Men's Belts
Trousers Ted Baker
Socks Zalando Essentials
Slip-ons Pier One



Complete the Wardrobe

Multi-dimensional ML driven product placement

Search

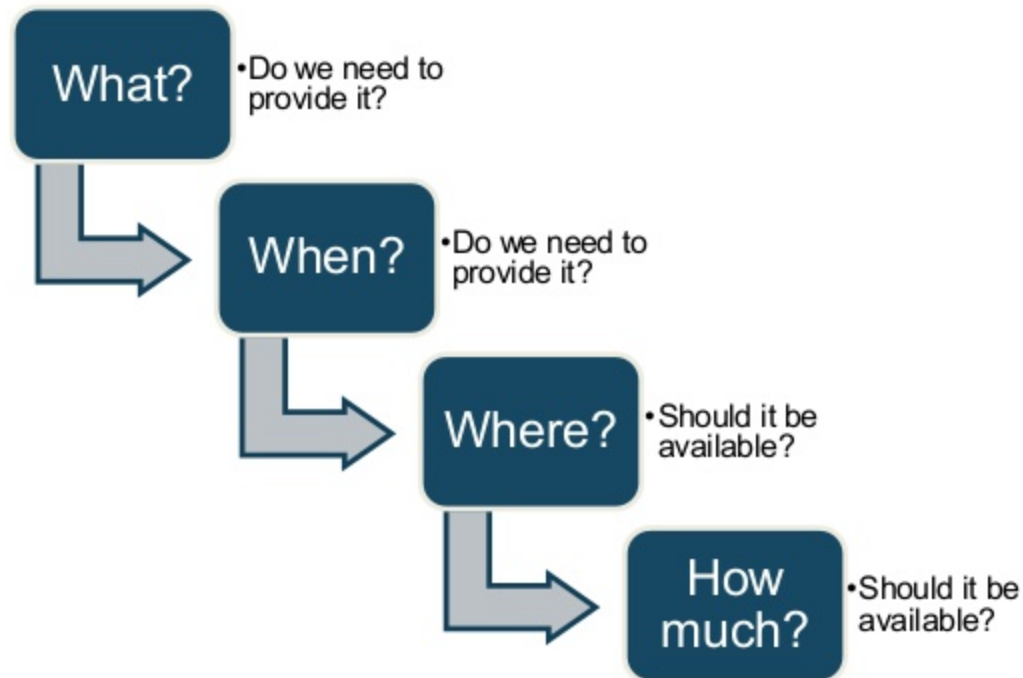
Recommended products

Complimentary items

Size (fit)

Delivery promise

AI Driven Supply Chain Management



Use of Data + AI in Retail

KPI Reporting

- What is the data telling us about what happened?

Machine Learning

- Actionable insights and predictive analytics

Artificial Intelligence

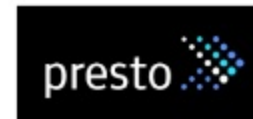
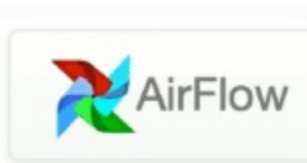
- How can we use those patterns to automate responses to predicted events

Challenges to ML/AI in Fashion

A Jungle of Tools



Flink



MicroStrategy

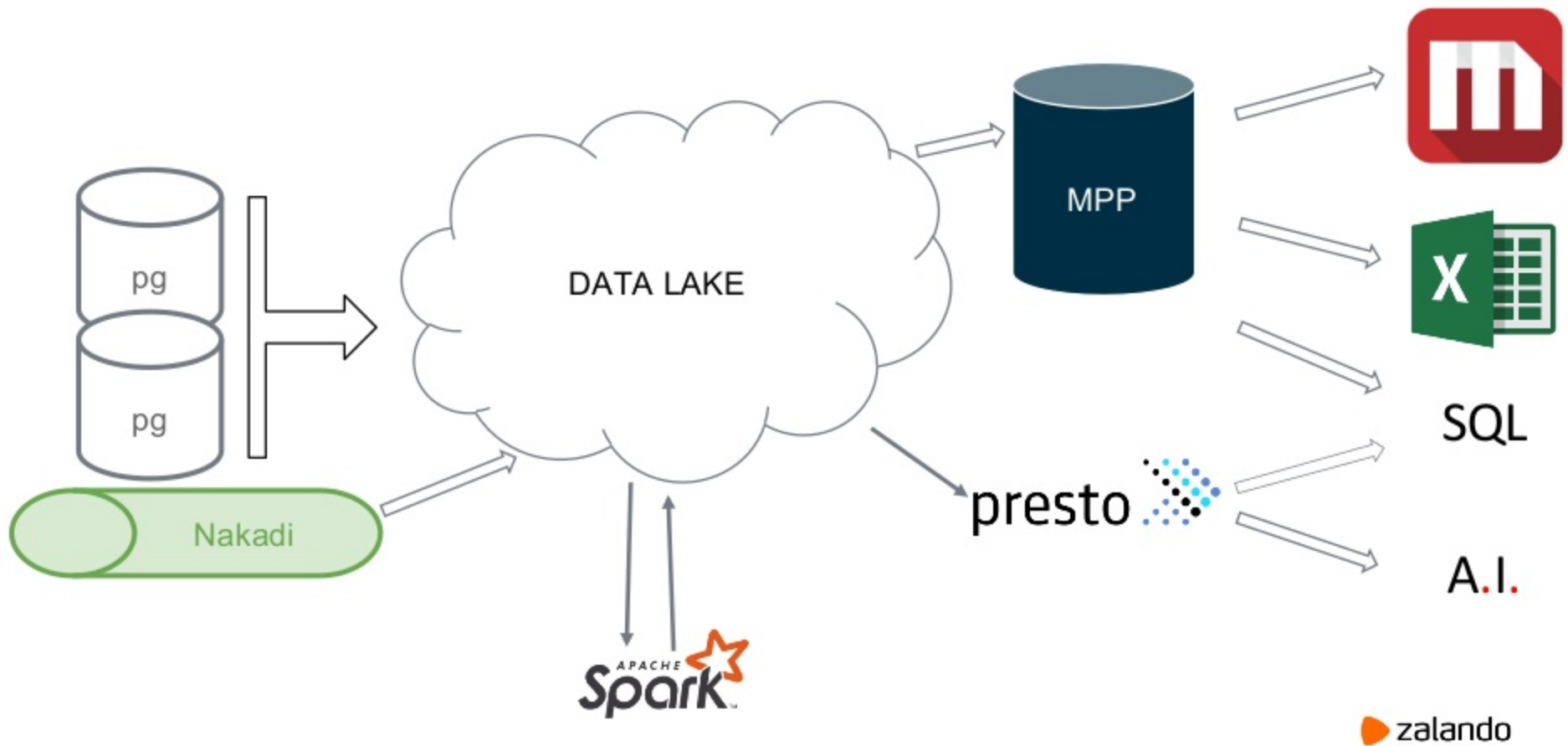


Exasol



Nakadi

Current Architecture



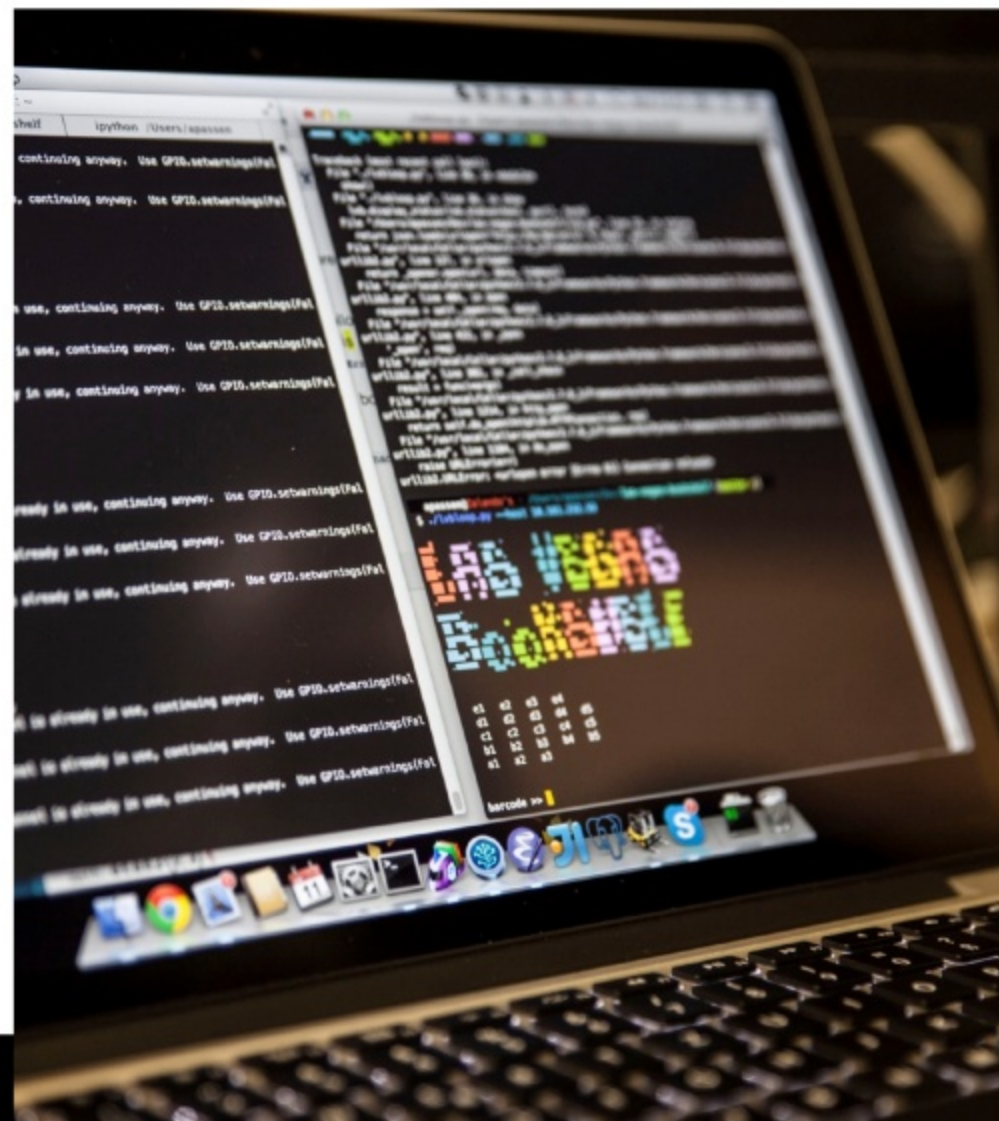
Agility or Sophistication?

Extremely advanced

Very basic expertise

Planning to do Data
Science

Full stack folks building
infrastructure





Myriad Sets of Use Cases

Better website experience

Predictable delivery

Better "fit"

Revenue improvements

Cost efficiency



**Potential for direct
business impact
with ML**

But...

**every team reinvents the
wheel for themselves**

So How do we do ML and AI at Scale?



Enable Agility with Sophistication for all Use Cases

Analytics

- Provide basic end-to-end tooling and guidance
- Databricks, MLflow, SageMaker, etc.

ML

- Databricks Runtime for ML and advanced tooling
- TensorFlow, Scikit-Learn, etc.

AI

- Databricks, MLflow, Delta, and advanced model management
- Learn from the advanced team – innersource and open source

Where we are going next

- Provide Spark-as-a-service



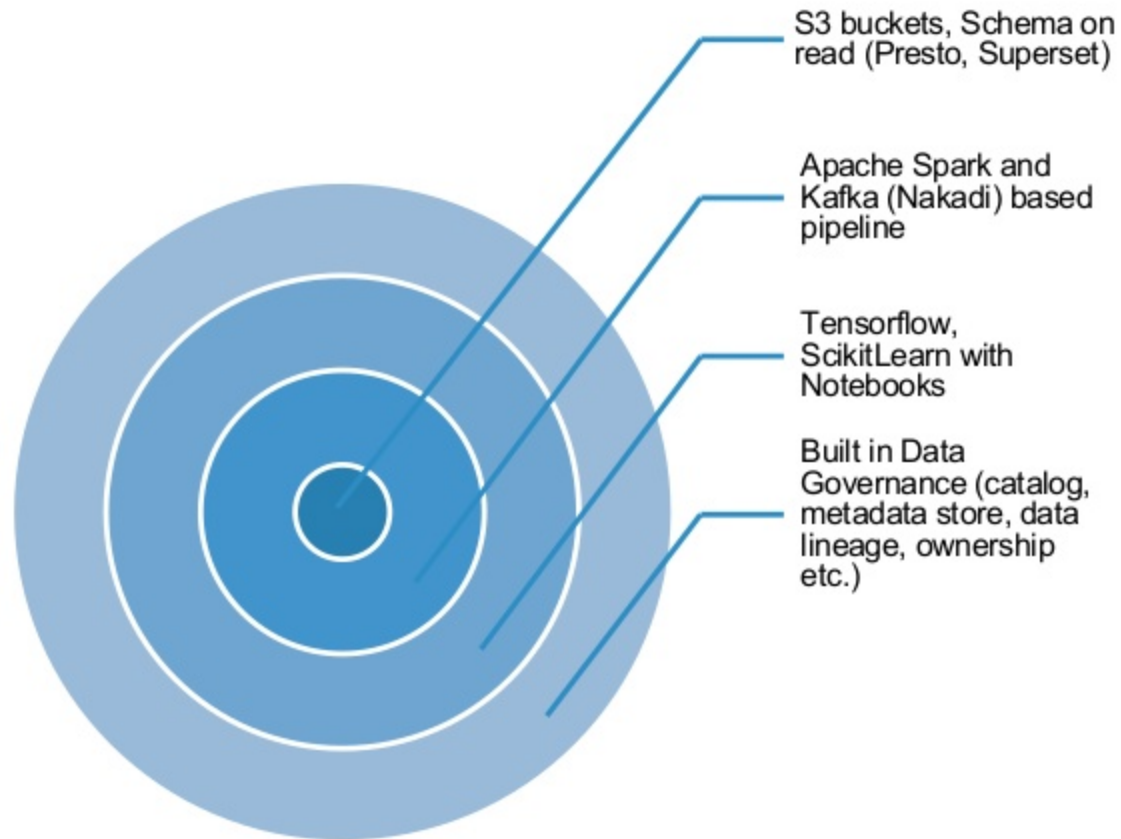
Unified Analytics

- ETL pipelines offloaded to Spark
- Data Engineering pipelines serving DWH and AI/ML

Gold, Silver, Bronze Datasets

- Prepared using above pipelines
- Gold/Silver serve DWH use cases
- Bronze can be self-serve using Spark

AI Ready Data Lake with a Unified Analytics Approach



Unified Analytics Vision

- Single Data Analytics system
 - Batch and Real Time with Multi-cloud
- Structured, unstructured data
 - Fast, secure access to the data
- Spark jobs spun up for most things
 - ETL jobs, analytics, data prep for ML
- ML toolchain with provenance
 - Data Lineage, ownership, governance

