

Analytics Lab: data science in Siemens

March 2019 | Lisbon

>Agenda

- Siemens
- Analytics Lab
- Projects



> Siemens Milestones of a 170-year history

SIEMENS
Ingenuity for life

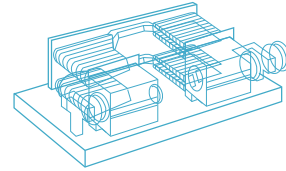
1816 – 1892

Company founder,
visionary and inventor



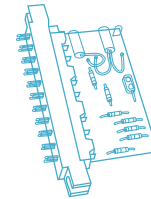
1866

The dynamo makes
electricity part of
everyday life



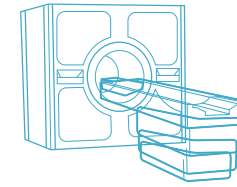
1959

SIMATIC makes
Siemens a leader in
automation technology



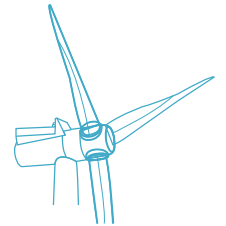
1983

First magnetic resonance
imaging scanner goes
into operation



2012

Test operation of the
world's largest rotor for
offshore wind turbines

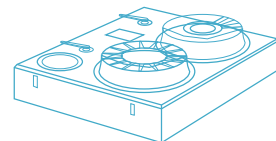


Werner von Siemens

Siemens innovations over the past 170 years

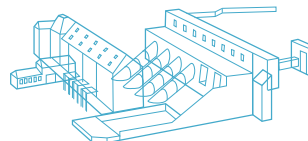
1847

Pointer telegraph
lays the foundation
of Siemens as a
global company



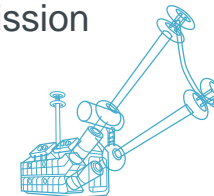
1925

Siemens electrifies
the Irish Free State
with a hydroelectric
power plant



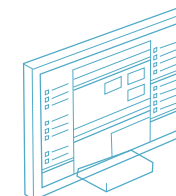
1975

Breakthrough of
high-voltage direct
current (HVDC)
transmission



2010

TIA Portal takes
automation a stage
further



2017

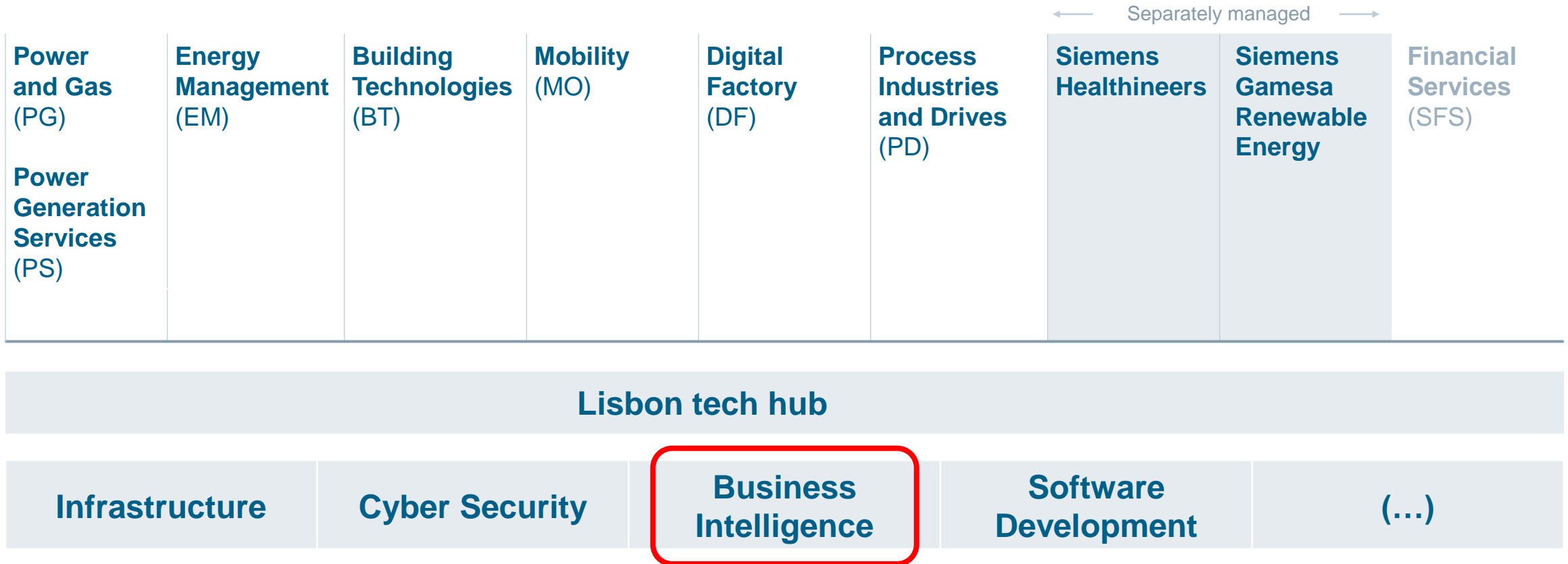
MindSphere, the
cloud-based
operating system
for the Internet of
Things



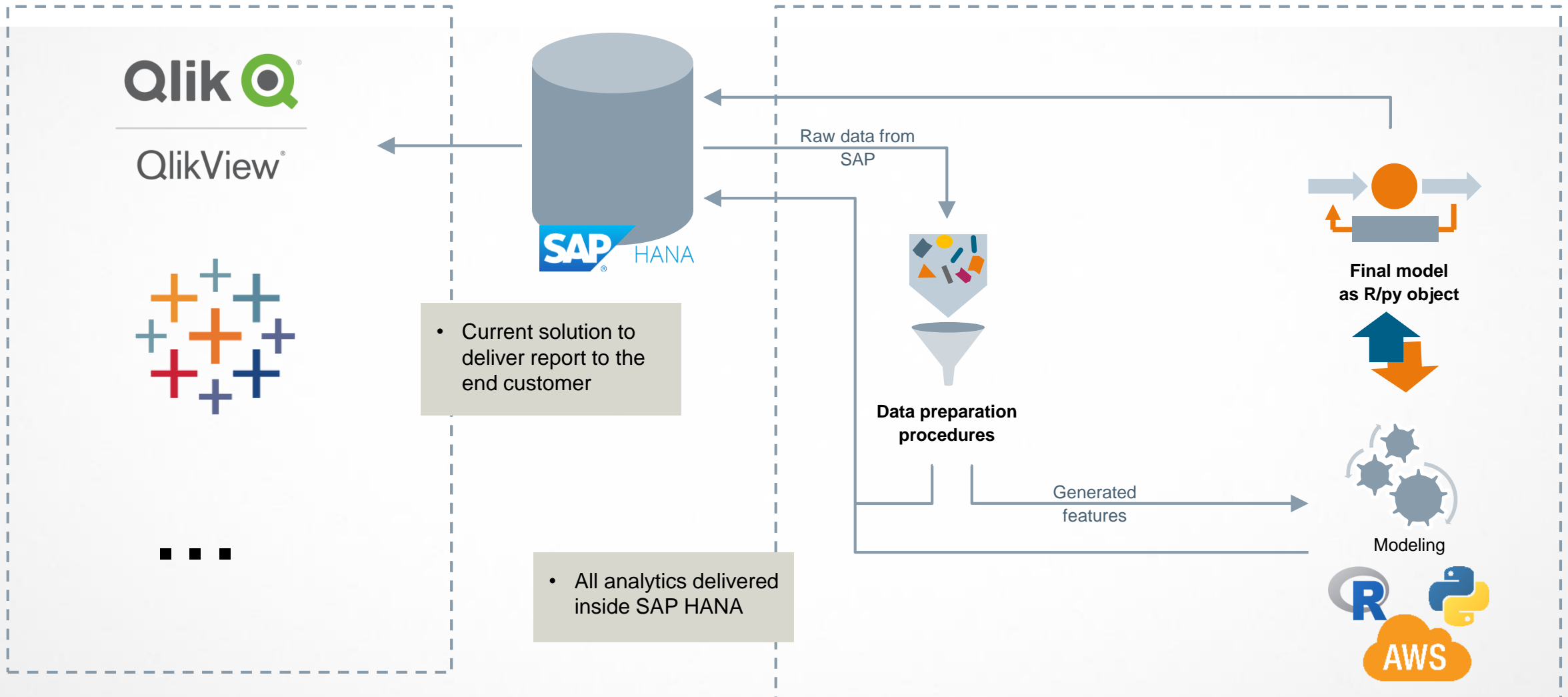
> Siemens Company structure



Our Business Divisions



> Analytics Lab Technical Landscape

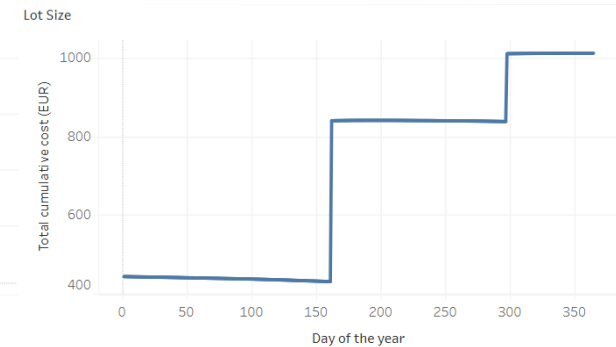
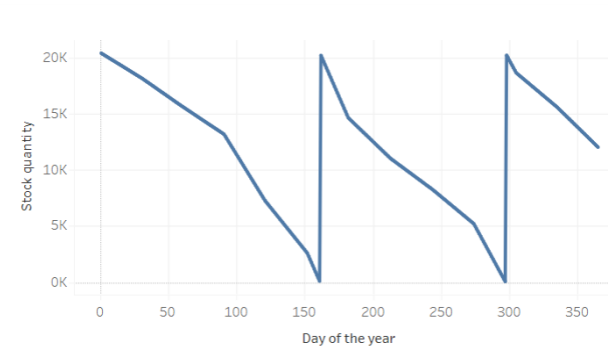
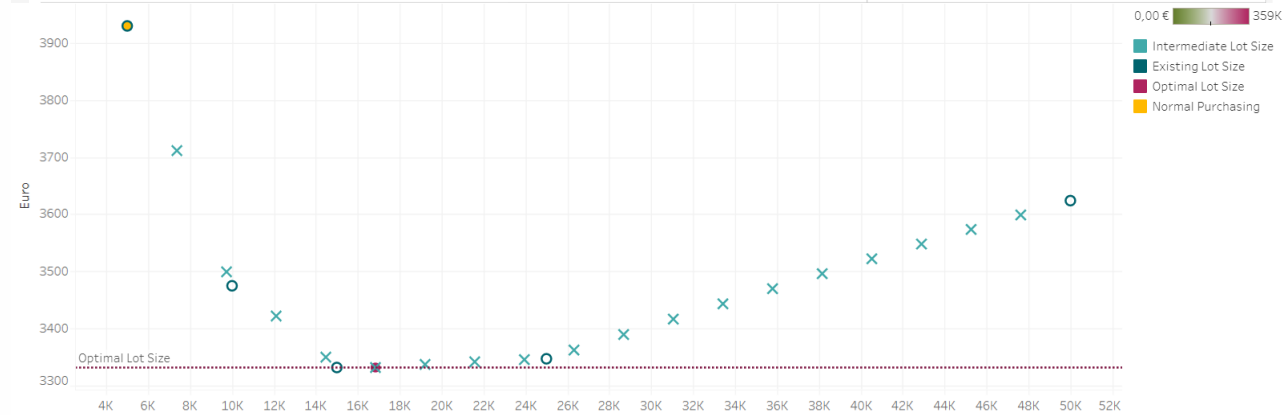


> Analytics Lab Lot size Optimizer



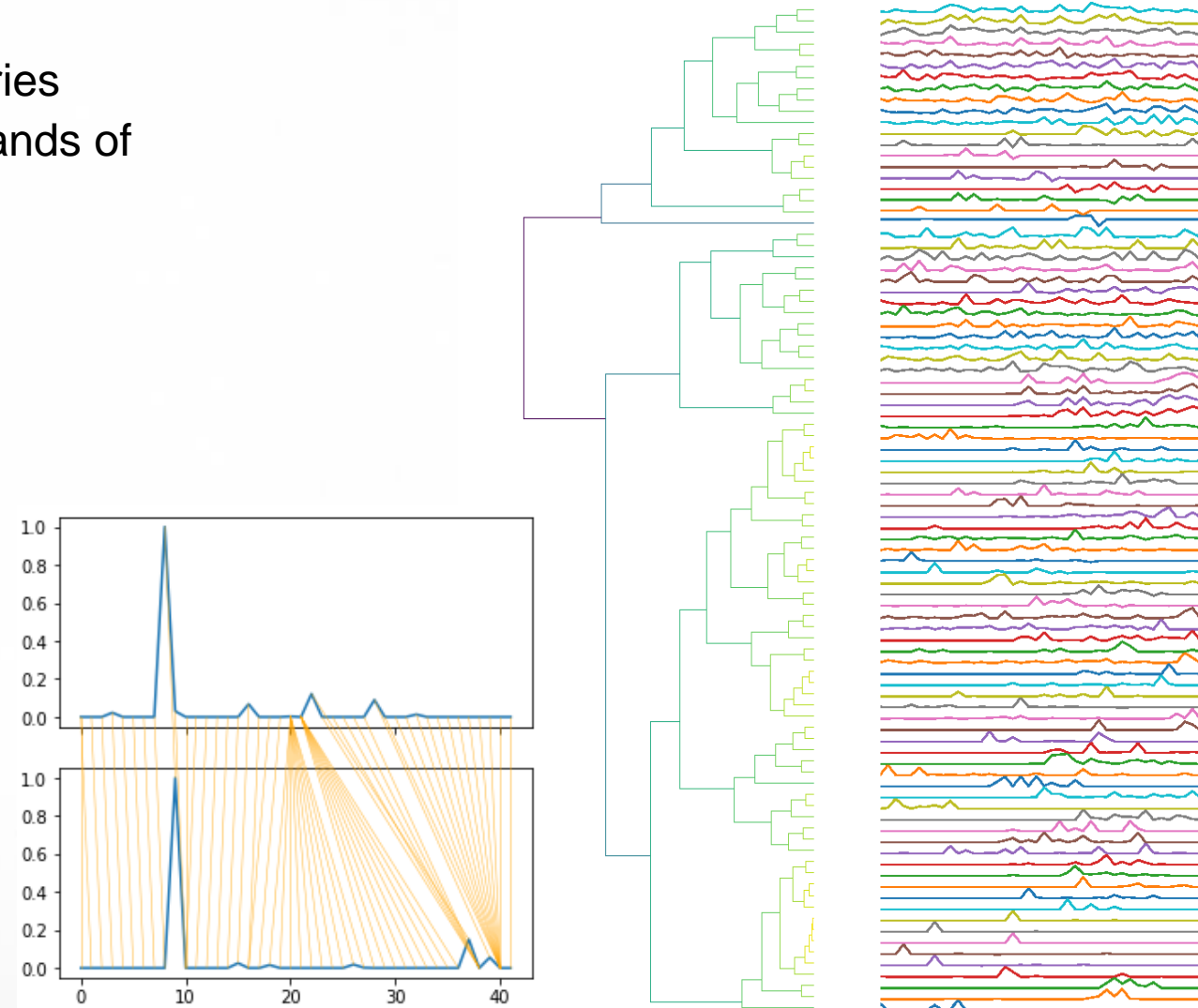
- Optimization of the lot sizes for each product was done by business specialists, case by case.
- Currently we can assess optimal lot sizes taking into account consumption patterns and other costs.
- Optimal lot size is automatically sent to system.

Vendor Number	Vendor Name	Material Number	Material Description	Next Best Action	Optimal Lotsize	Optimal Price per Piece	Potential
10943838	IDI COMPOSITES I..	ASE30425022	FS UP BMC nf / 728-09E	Already negotiated lot 10000.0 size is beneficial - change norm..	10 000	1,52 €	986,91 €
10947907	Fuda Alloy Materia..	L1V30041702501	Contact Plate moveable 5...	Already negotiated lot 300000.0 size is beneficial - change nor..	300 000	0,05 €	960,25 €
A1503349	Evert Etiketten G..	2539171401	Etikett PET 13x13 grau	Already negotiated lot 5000.0 size is beneficial - change norma..	5 000	0,05 €	943,36 €
10802399	Metall Dittrich,	L1V30003849	Flat_Products_1.5x44-Cu..	Already negotiated lot 2000.0 size is beneficial - change norma..	2 000	0,43 €	851,98 €
10802399	Metall Dittrich,	A5E01058264	Bd 0,5x44 - EN13599 - Cu ..	Already negotiated lot 1000.0 size is beneficial - change norma..	1 000	0,51 €	796,68 €
A1503372	Bernhard Boecker, ..	L1V30525325	Bd EN 10140-1,2x57GK E..	Already negotiated lot 5000.0 size is beneficial - change norma..	5 000	1,00 €	706,40 €
A1500359	FLIERL DRUCK KG	2539104101	Montageanleitung	Already negotiated lot 20400.0 size is beneficial - change norm..	20 400	0,02 €	693,18 €
A1502729	Ros GmbH & Co. KG	2539161912	Schottung	Already negotiated lot 15000.0 size is beneficial - change norm..	15 000	0,08 €	664,55 €
10910972	Homeyer Stanztec..	A5E00372887	mounting frame	Optimal lot size found by optimization, negotiate optimal lot si..	16 840	0,21 €	598,06 €
A1502562	Zanner & Gedak G..	A5E01098255	Kombischachtel 2,3-TE	Already negotiated lot 10000.0 size is beneficial - change norm..	10 000	0,13 €	596,01 €



> Analytics Lab Lot size Optimizer

- A forecast of the actual consumption is done - series can have just months of data and there are thousands of materials per factory.



> Analytics Lab Traffic air analytics

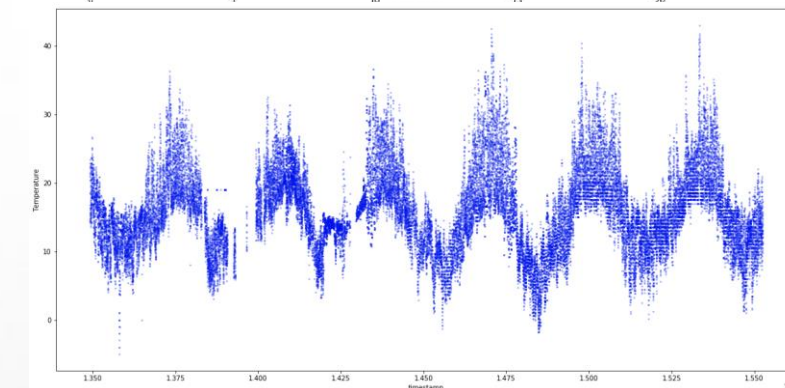
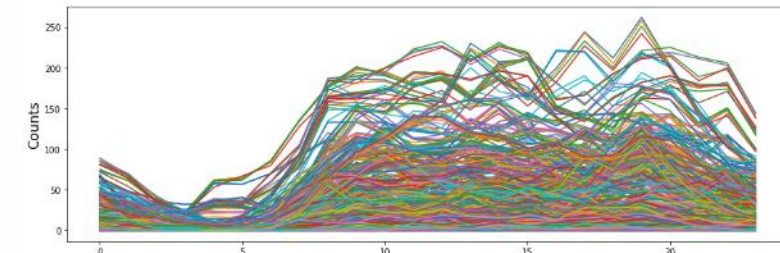
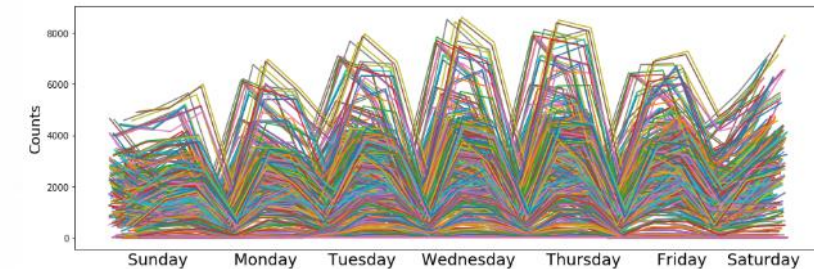
- Track vehicles and generate reports for traffic patterns using a drone to capture video.
- Using object detection algorithms and classifiers for vehicle class.
- Accuracy scores are quite high, human rate is ~85%.

SIEMENS
Ingenuity for life



> Analytics Lab Parking forecast

- Generate insights on public parking occupancy rate based on drivers current location – highway banners, dynamic displays,...
- There is plenty of information that is relevant to the problem: weather data, traffic data, events data, ...



Thank you.
Questions?

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