

Process Mining - the Ericsson Experience

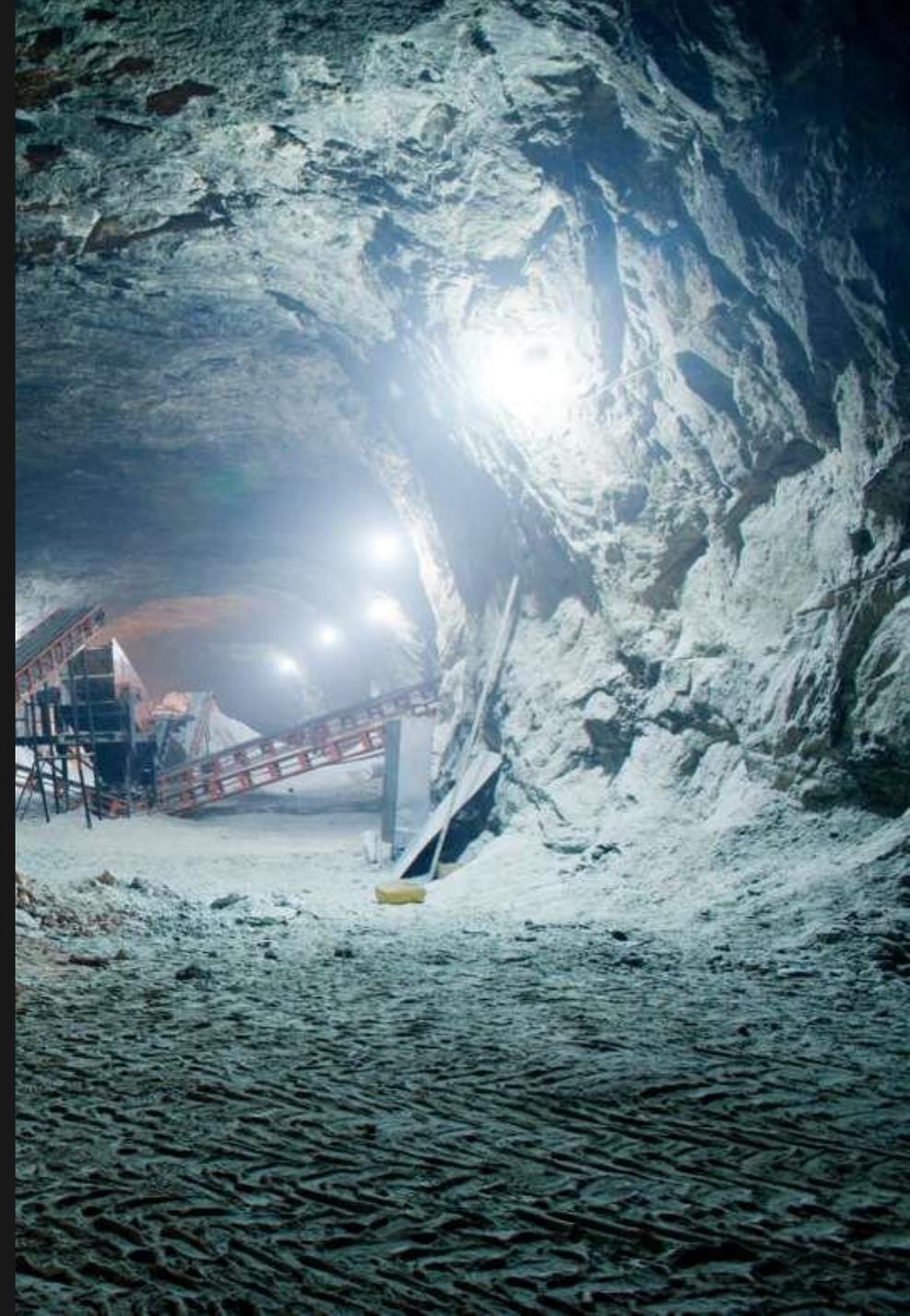


Cecilia Anneroth
Enterprise Process Architecture, Group IT

Ericsson

AGENDA

1. Ericsson
2. Ericsson Process Mining Journey
3. Thoughts and experiences
4. Discussion





Marilla Bax

@marillabax

Följ



"Wenn Sie einen Scheißprozess digitalisieren, dann haben sie einen scheiß digitalen Prozess" dank an T. Dirks für diese Analyse [#service](#)

21:42 - 22 nov. 2015

5 Retweetar 6 gilla-markeringar



↻ 5

♡ 6

We're on a mission to drive improvements based on facts...



" We need to have robust **fact**-based discussions and decisions. Let's make sure this happens from now on."

"We need to lay out all issues ... Then we can analyze the situation in well-grounded **facts**"

"...It is critical we get into depth and have real, honest, **fact**-based discussions"

Börje Ekholm
President & CEO, Ericsson

Ericsson



Cecilia Anneroth
Johan Myrberger

Enterprise Process Architecture

2019-09-17

Ericsson at a glance



Enabling the full value of connectivity
for service providers

Business areas:

- Networks
- Digital services
- Managed services
- Technologies and new businesses

By the numbers:

- 180+ countries
- 210.8 b. SEK in sales
- 95,359 employees
- 49,000 patents

Image: Ericsson headquarters, Kista, Sweden

Full year 2018 figures

Global presence



X 1,000 employees

95,359
employees worldwide

55,000
of our employees are
active within Services

23,600
of our employees are
dedicated to R&D

From copper wire to artificial intelligence



140

Years of enabling communication

95%

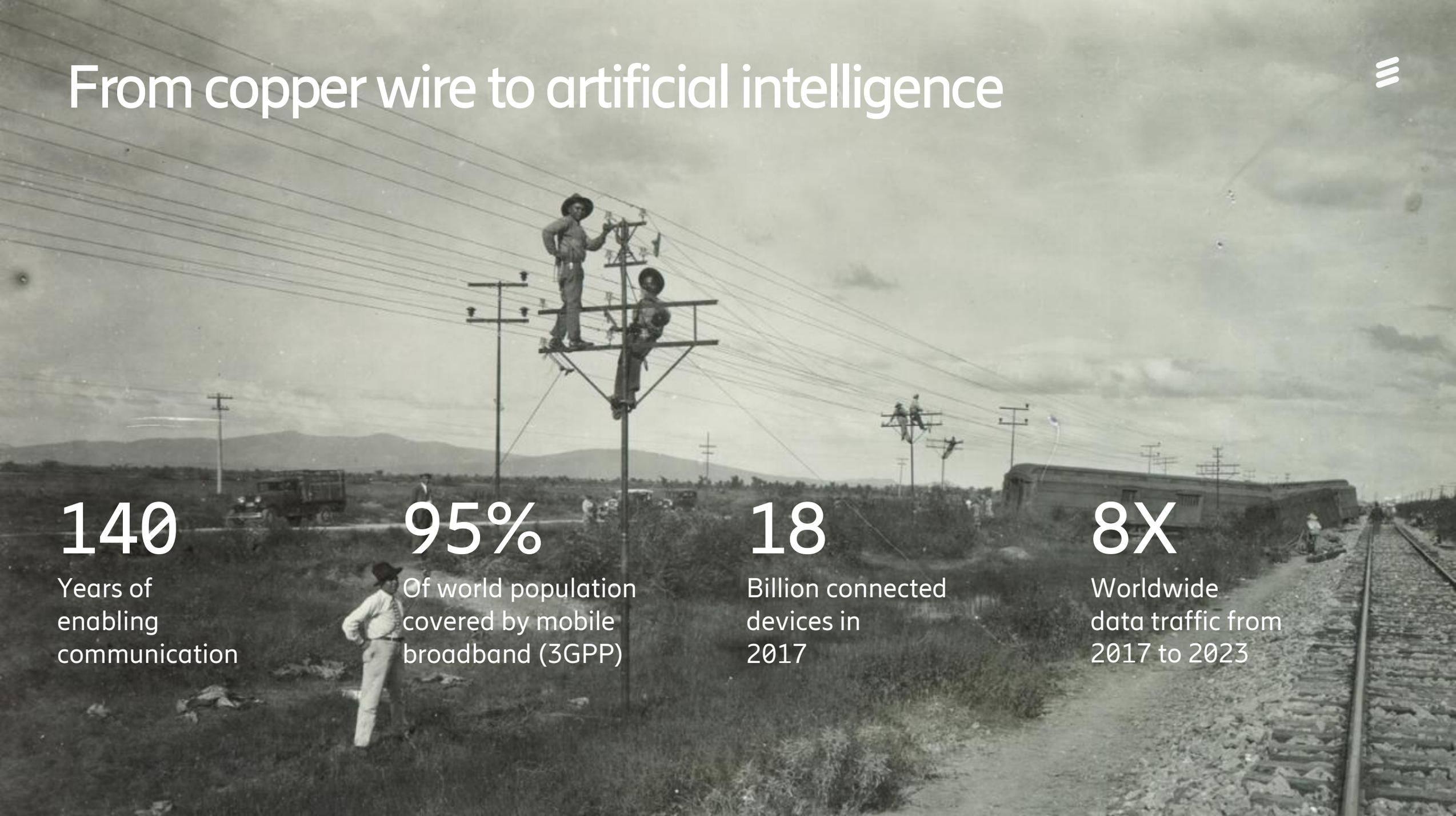
Of world population covered by mobile broadband (3GPP)

18

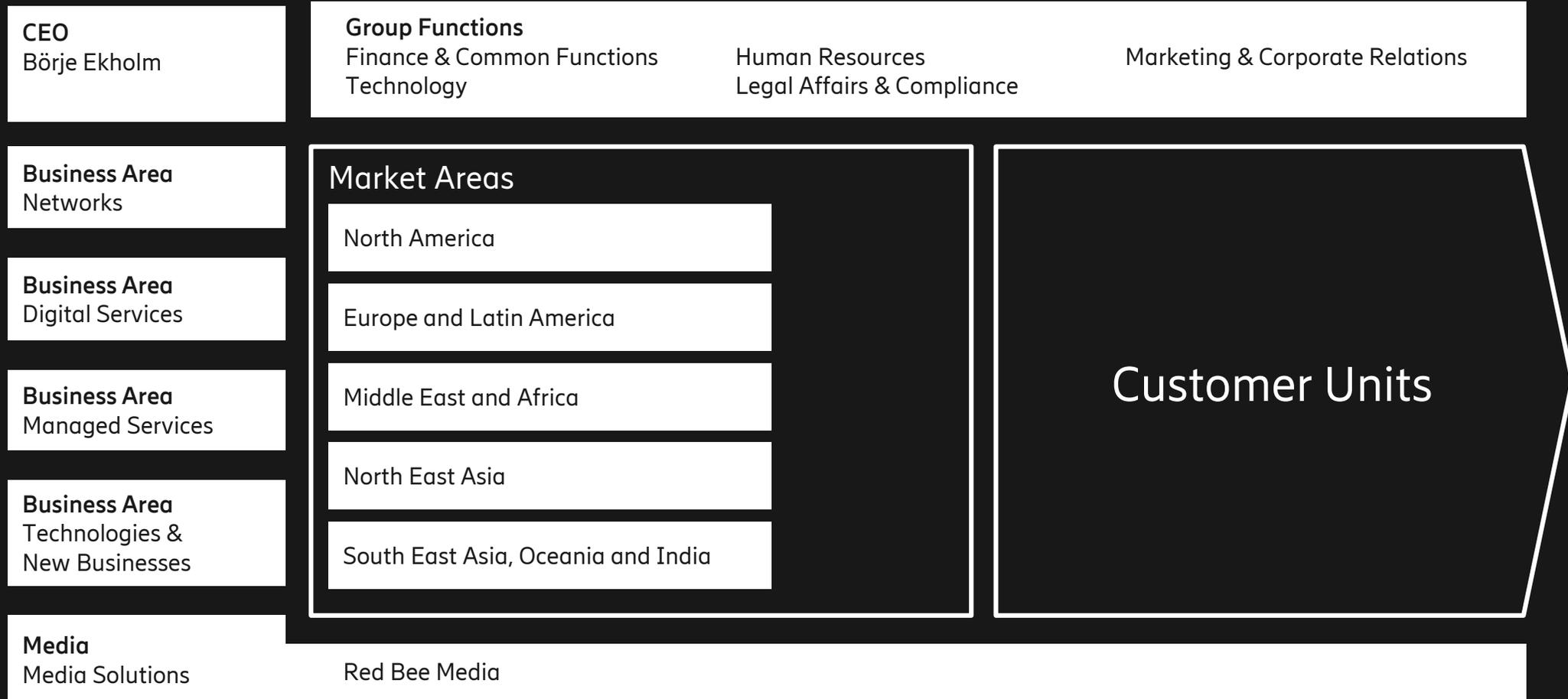
Billion connected devices in 2017

8X

Worldwide data traffic from 2017 to 2023



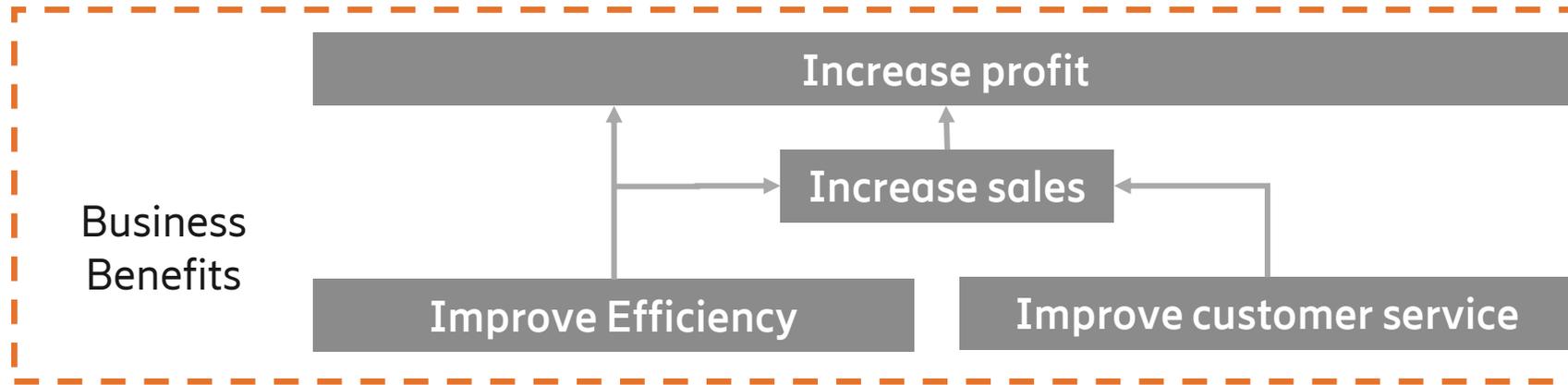
Organization reflecting our business



Ericsson Process Mining Journey



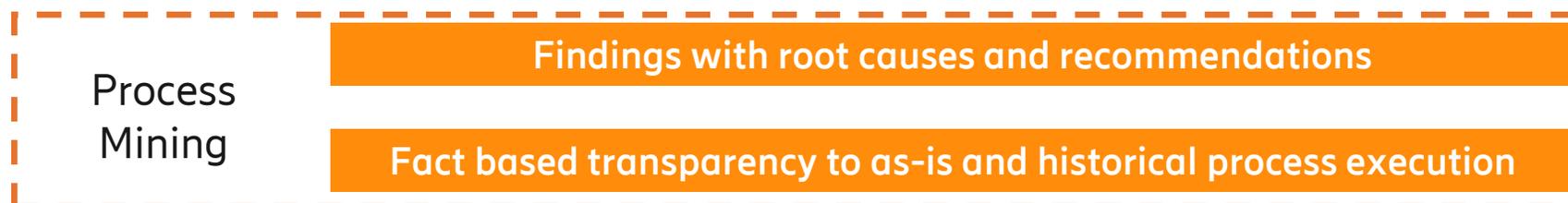
Realizing the Value of Process Mining



What are the business benefits?



How to utilize process mining to create business value?



What does process mining deliver?

How can we use Process Mining?



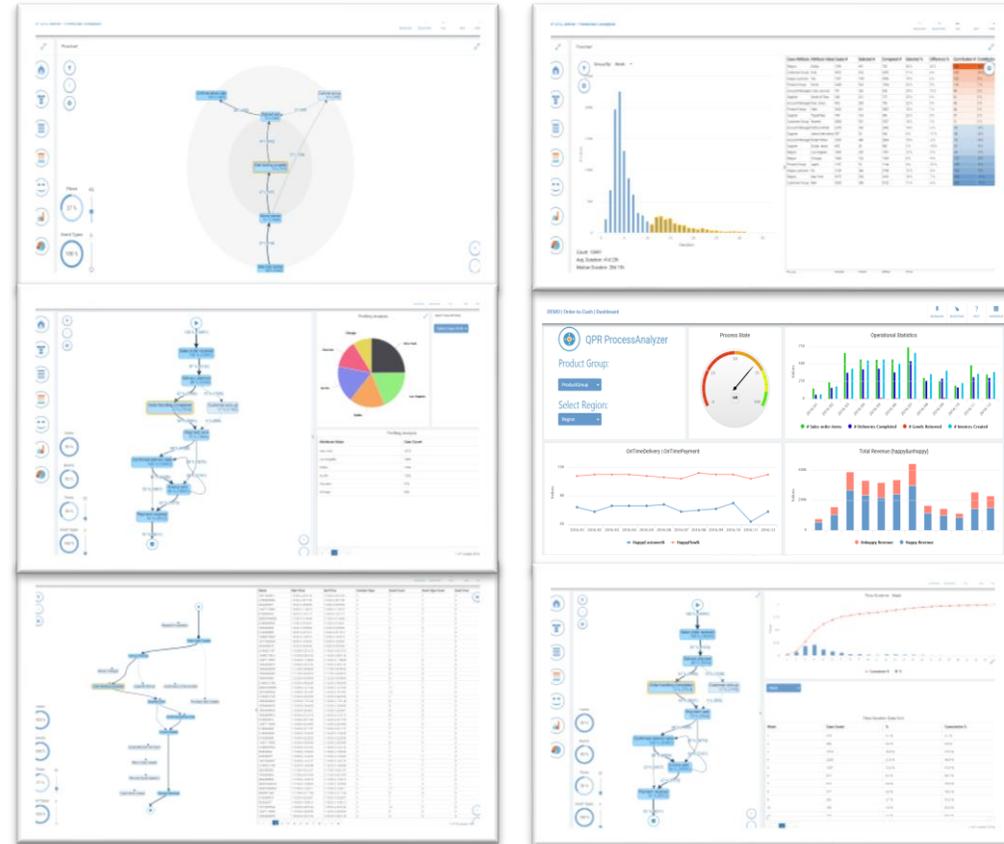
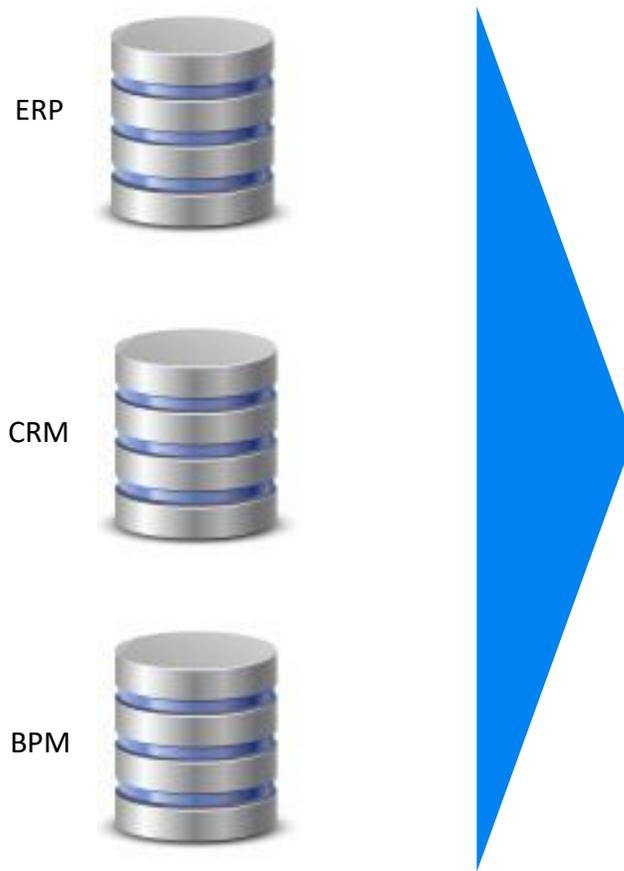
Explore As Is Process

- Verify Improvement Investments
- Identify Performance Problems
- Identify how much Variation across the organization

Identify Process Execution Performance

- Visualize how process is executed in our IT systems
- Cross IT system end-to-end performance

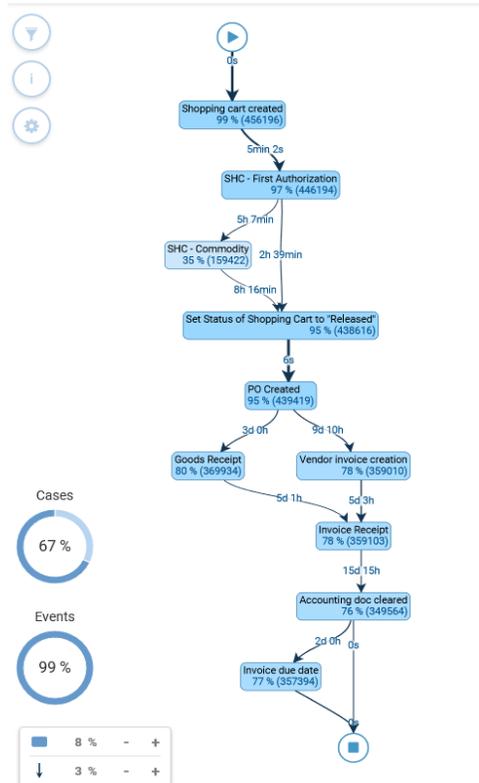
The idea: Turn transactional data into visual process intelligence with QPR ProcessAnalyzer



Flowcharts, Influence Analysis, Profiling, Process KPIs, Case Attributes, Flow Duration analysis

Ericsson Process Mining in Numbers

- as per September 2019



- Data from 10+ source systems (majority consumed from HANA or MapR)
- Process Mining Models:
 - Around 20 models available with automated data uploads
 - 44 million cases & 200 million events
- Up to 150 case attributes in a model
- Up to 220 event types in a model
- 9 event attributes across the models
- 3 dash boards

- 100+ trained QPR ProcessAnalyzer users
- 27000 logins to QPR ProcessAnalyzer
- 6 continents and 100+ countries covered
- 1000+ process mining related meetings
- 10000+ cups of coffee consumed

We are ready enough with models and competence to ramp up analysis and create tangible results through process mining.
Actionable results already available.

How we use Process Mining?

- Overview



Digital Transformation

Purchase to Pay

Finance

Supply

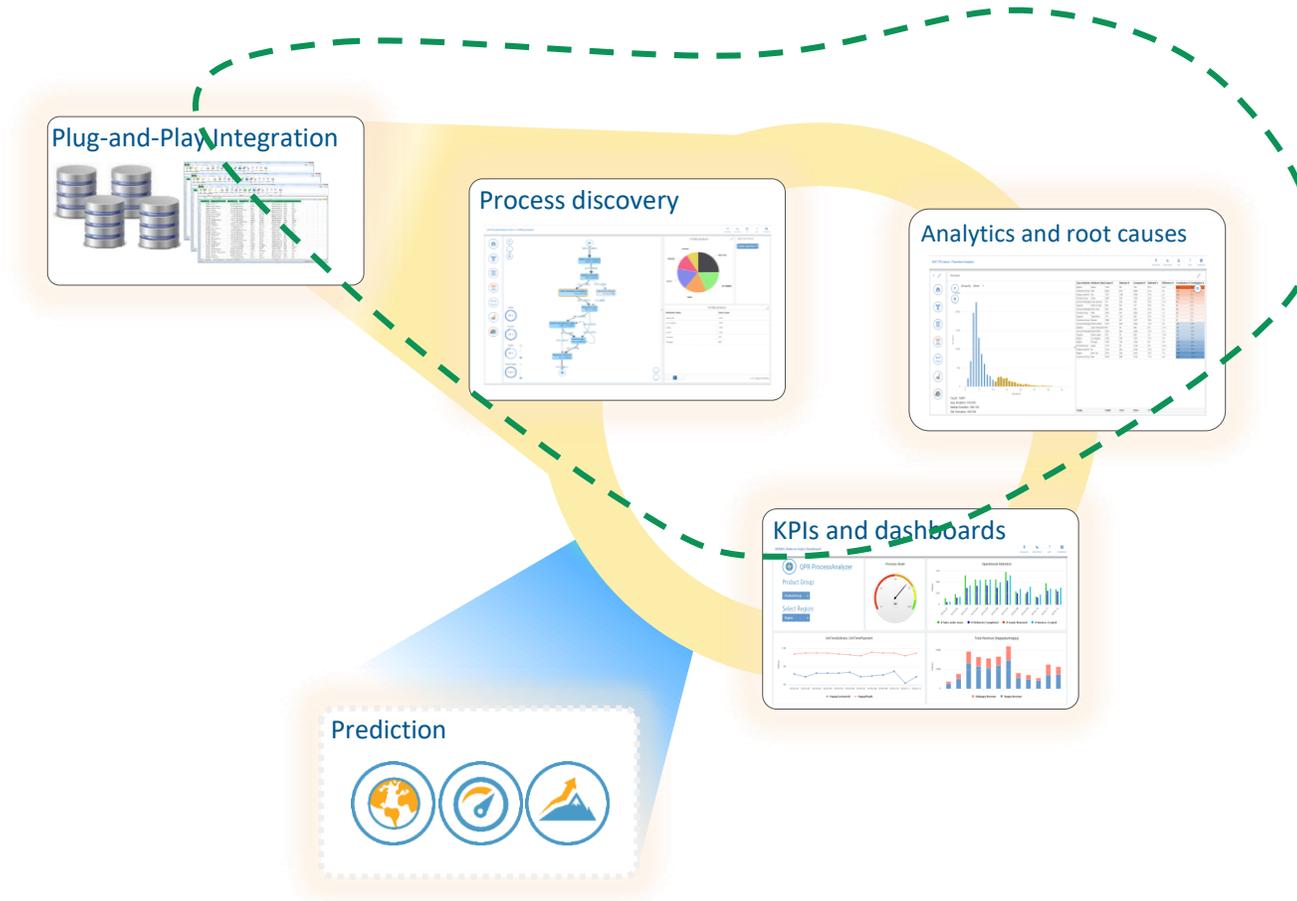
Automation

Market Areas

VALUE CREATION

- Create baseline, control and drive lead-time Improvements cross units and process
- Visualize and eliminate lead-time drivers and in-efficiencies in executed processes
- Speed, quality and risk elimination in deployment of new WoW & IT solutions
- Adherence to new WoW
- Speeding up ticketing process
- Improve efficient and Automation through insight analysis
- Automation opportunity discoveries
- ASIS process maps and volume
- Automation rate measurements

... Our Journey just started



Example

Process Mining in Supply



Process Mining part of Realization of Supply Strategy



What we potentially want to achieve with process mining in supply:

- End-to-end time visibility based on real time data, analytics and full transparency
- Identify Supply chain bottle necks and optimization of supply operations
- Identify long lead-times with root cause analysis
- Identify manual and repetitive processes
- Measure automation and identify automation opportunities
- Measure process adherence
- Bonus: identify incorrect and missing data

Supply Process Mining Community



Supply Process Mining Network

- A team with a lead in each Market Area
- Around 20 selected process experts
- Follow-up meetings

Responsibility

- **Verify** models developed
- Perform **process discovery** for the use cases to diagnose, verify & validate findings
- Find root causes or contributors
- **Provide improvement ideas and recommendations** to Global/Market Area process responsible, Line organizations and initiate process changes
- Monitor process performance after changes and report status
- Identify new process mining use cases in different Supply areas
- Develop KPI dashboards

Competence

- **Knows supply processes** (on customer level if possible) as well as standard process
- Knows master, transactional and analytical **data** in the supply chain
- Knows **supply chain** events
- Able to do as-is process discovery
- Able to identify **process deviations and violations** in actual process execution
- Able to find process **in-efficiencies/bottlenecks** (waste) and understand root causes and create improvement proposals
- Able to identify **automation opportunities**

Supply Process Mining Set-up



- Dedicated Process Mining Driver for Supply Area
- Improvement focus areas defined (e.g. speed, customer experience, automation, etc.)
- All Analyzers were asked to start with some defined Use cases
- Methodology provided
- Sprints defined around focused improvement areas
- Plans continuously developed

Setting up a Process Mining Capability

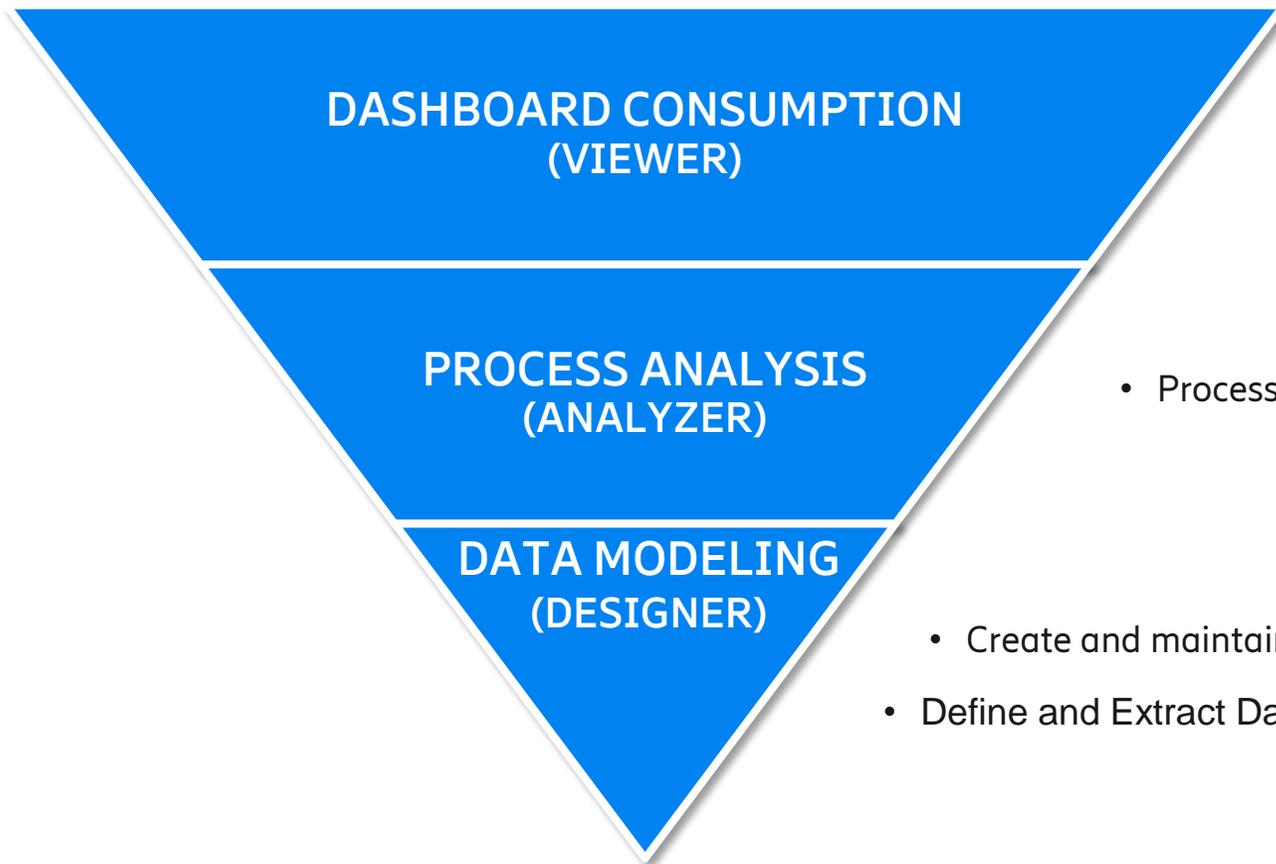


Challenges includes...



- Build Competence
- Geography
- Local processes and IT Systems
- Disconnected data and IT systems
- Diverse Business
- Focus on insights for improvement

Build competence around QPR system roles



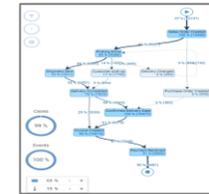
DASHBOARD CONSUMPTION
(VIEWER)

- Consume pre-defined Dashboards (process flow models and KPIs)



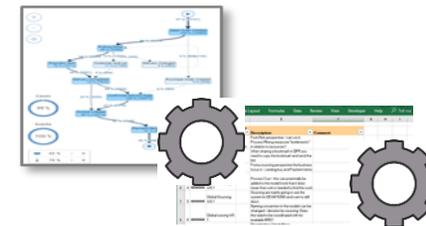
PROCESS ANALYSIS
(ANALYZER)

- Process Flow Discovery and Insights



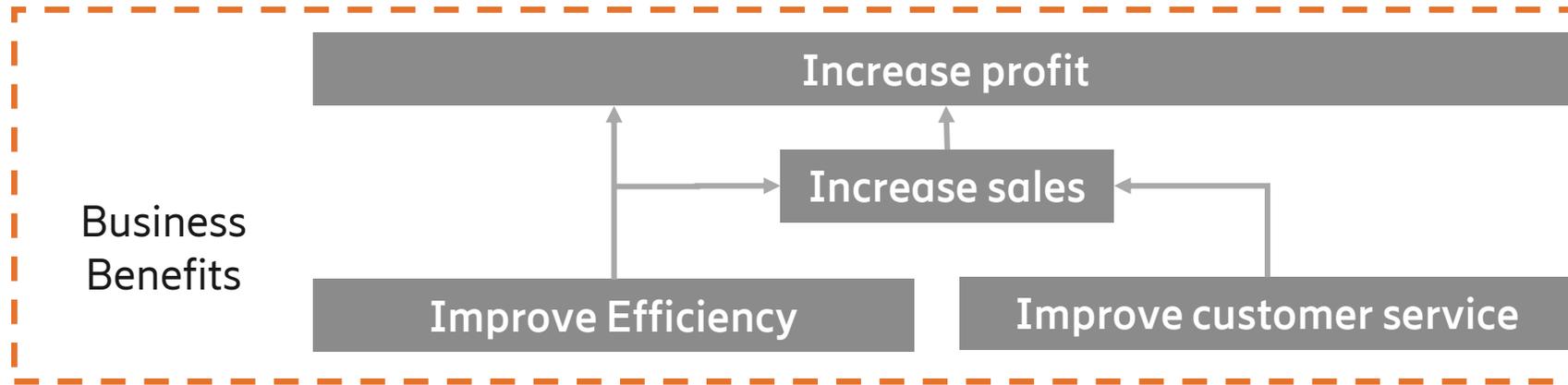
DATA MODELING
(DESIGNER)

- Create and maintain data models
- Define and Extract Data



DATA ENGINEERING
(DESIGNER / ADMINISTRATOR)

Realizing the Value of Process Mining



What are the business benefits?

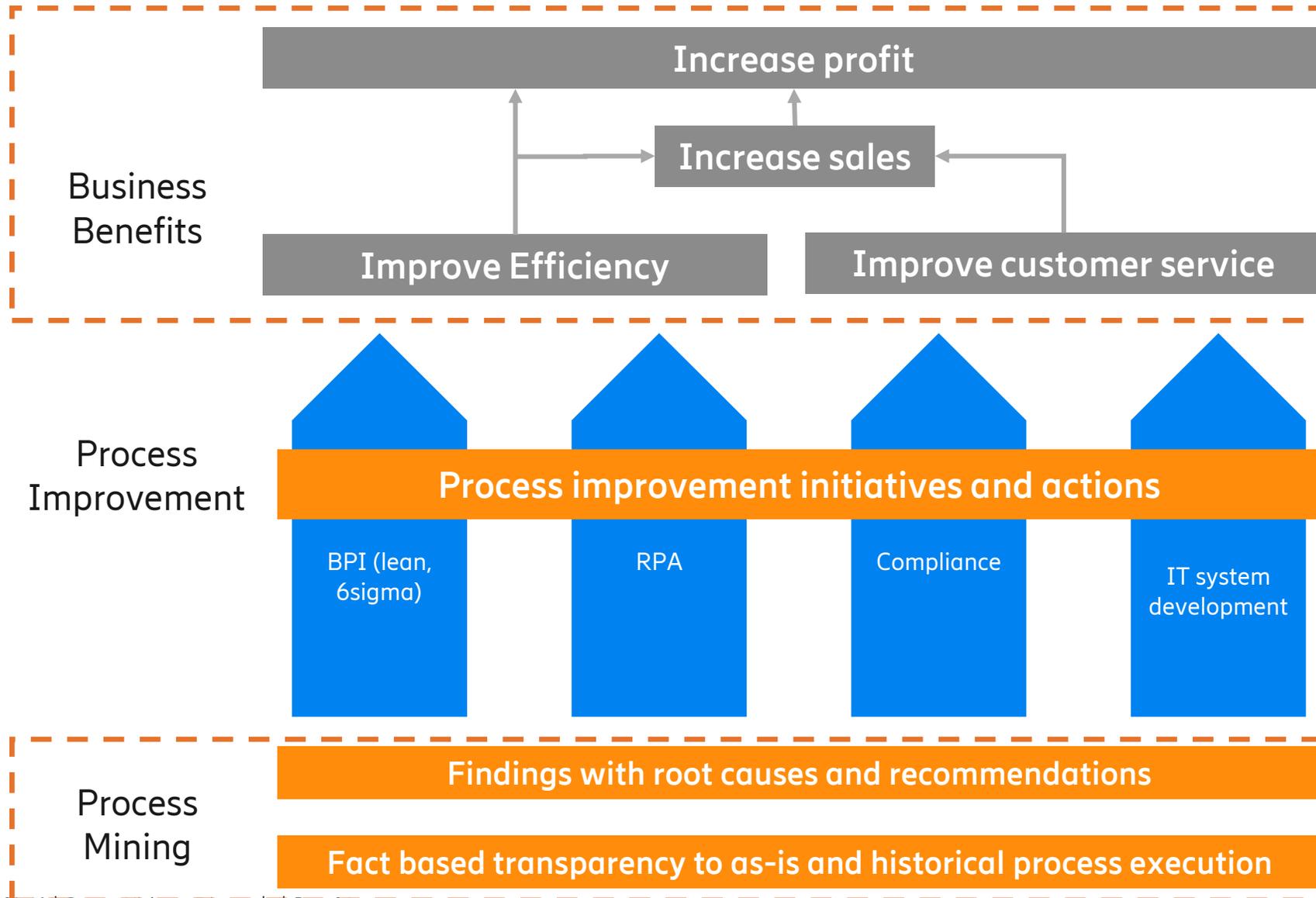


How to utilize process mining to create business value?



What does process mining deliver?

Realizing the Value of Process Mining



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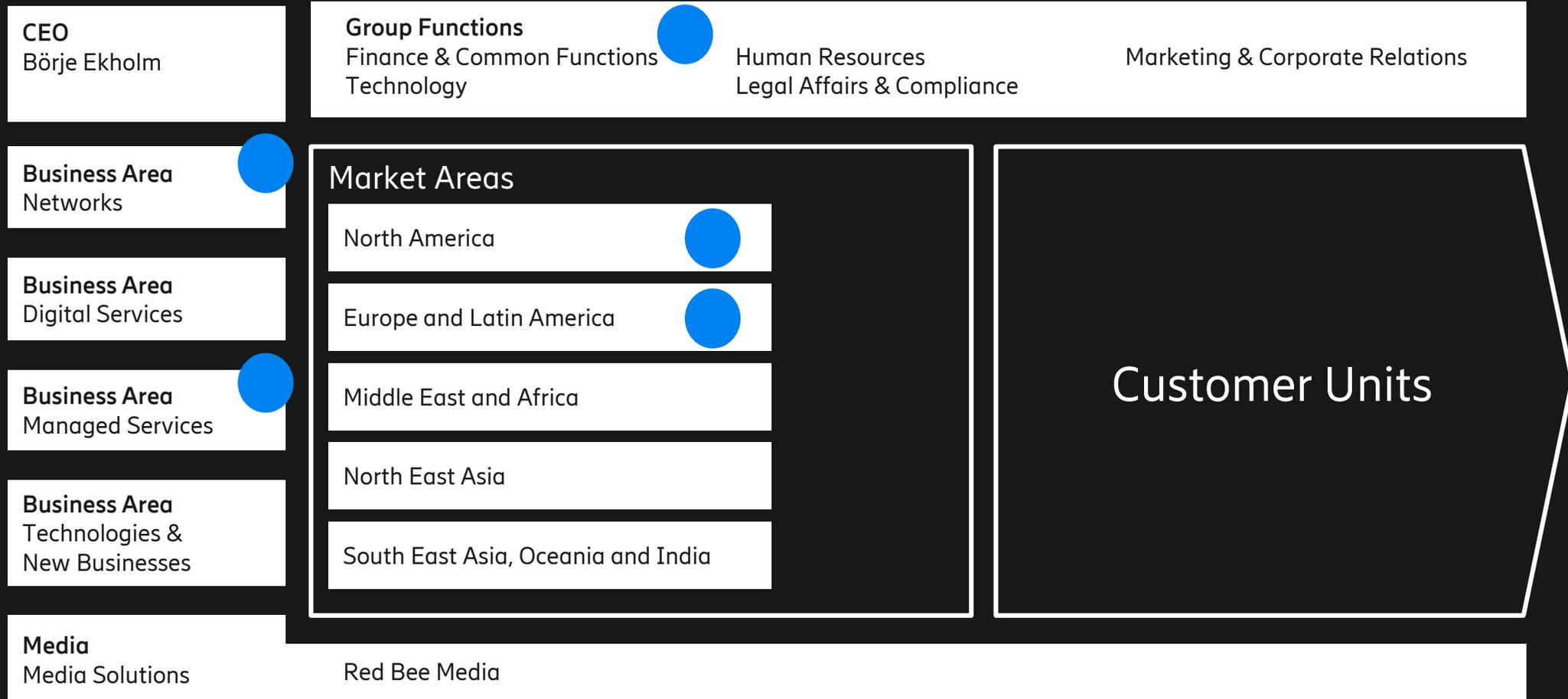
Geographic Spread

- Process Mining Analyzer
- Process Mining Model Developer

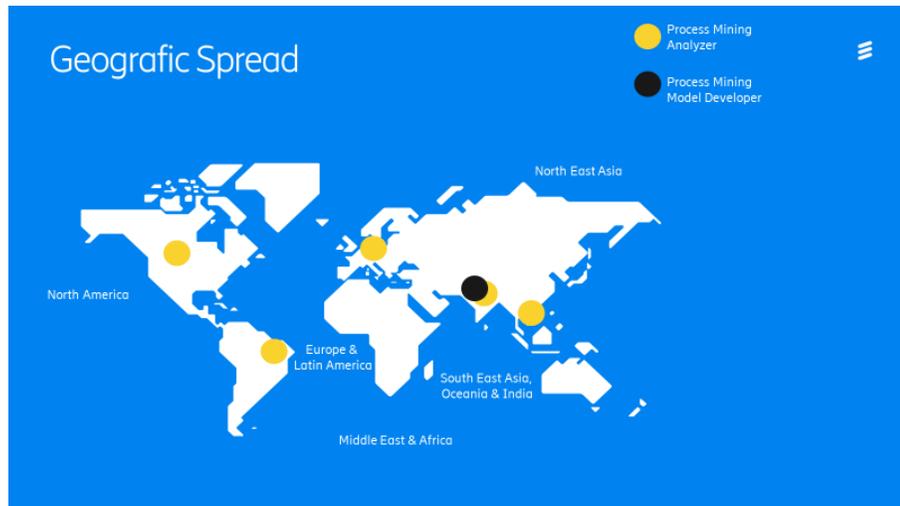


Current Organizational Spread

 Process Mining
Capability



Cross Functional and Global Community

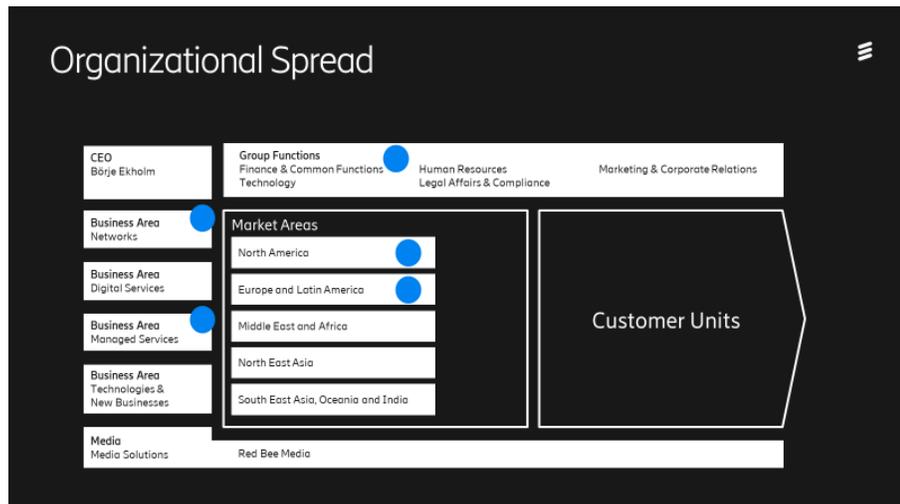


Mining Areas set up

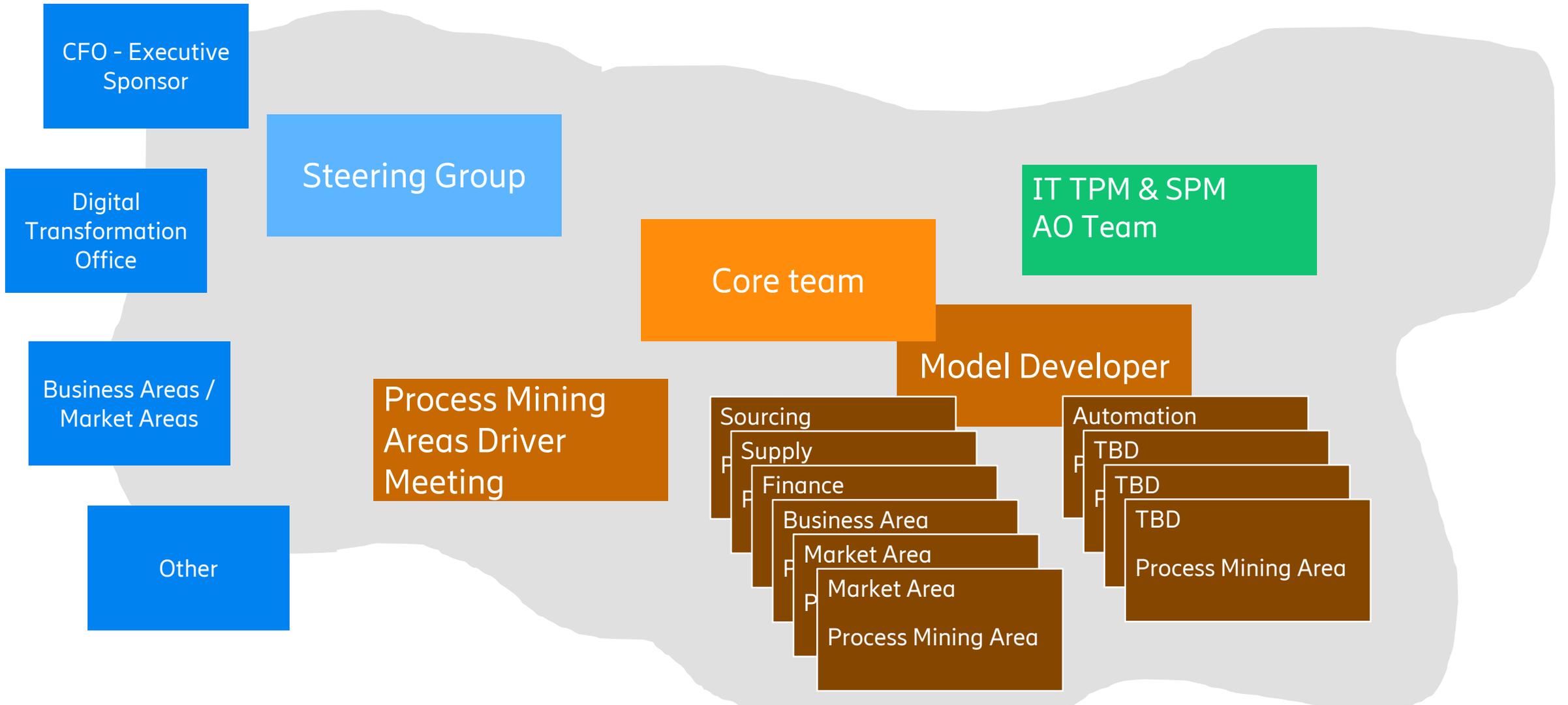
- Virtual organizations
- Functional and Market perspectives
- Process, data, modeling and analyzer competences

Ways of Working

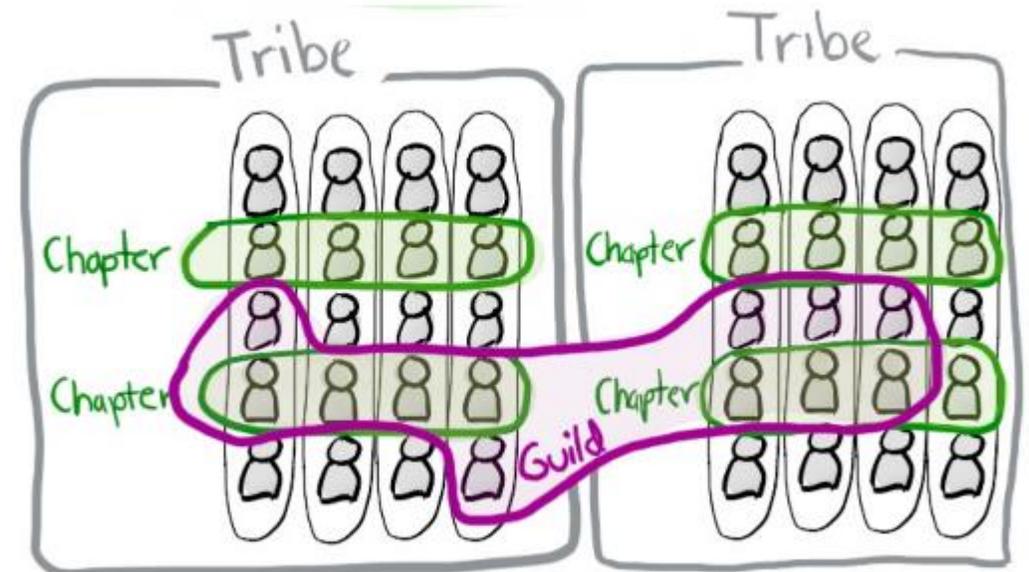
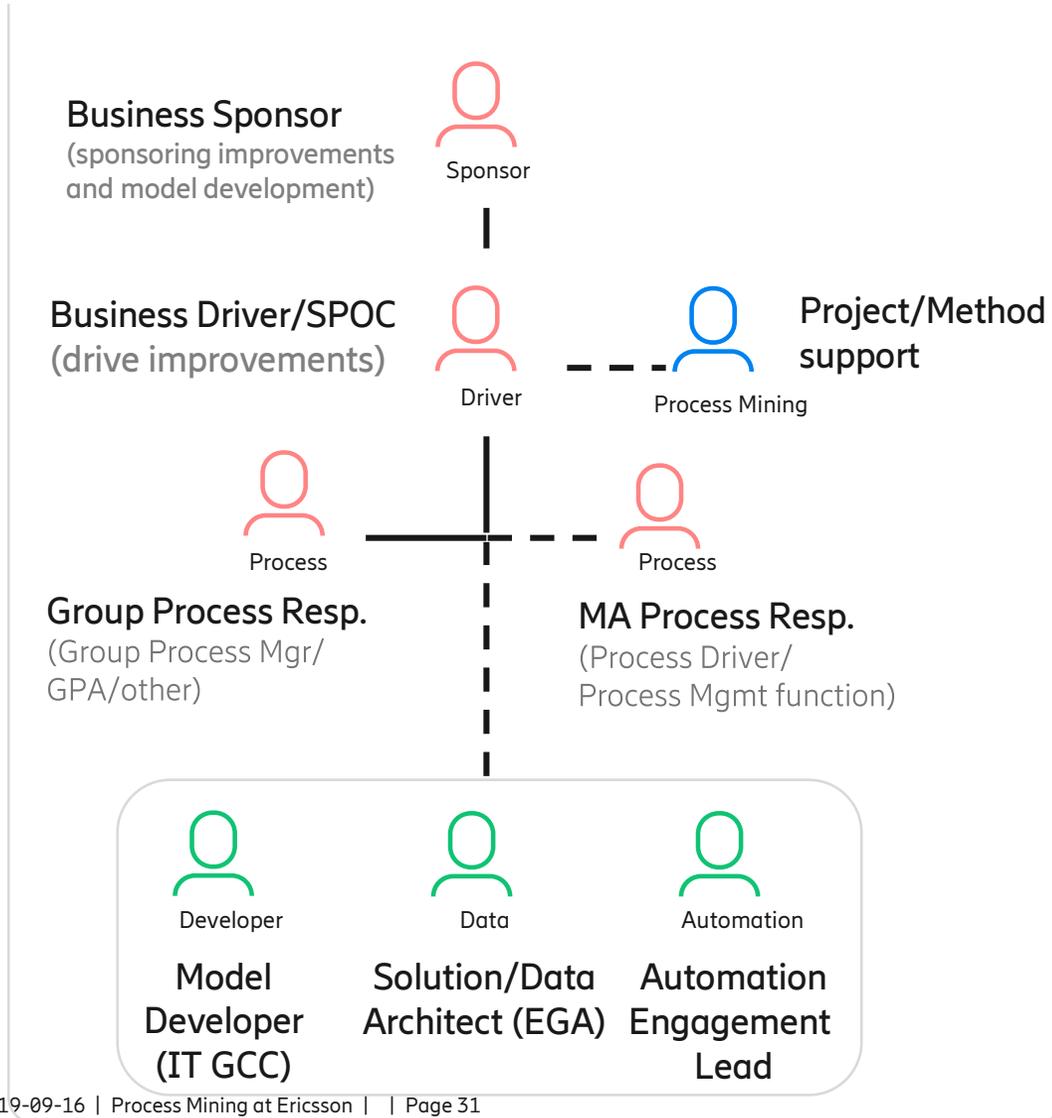
- Central Team – coordination, facilitate and drive
- Training
- Developer community for model development
- Sharepoint, Yammer, Teams, User Surveys
- Steering Group for support and escalations



Process Mining Community (Ecosystem)



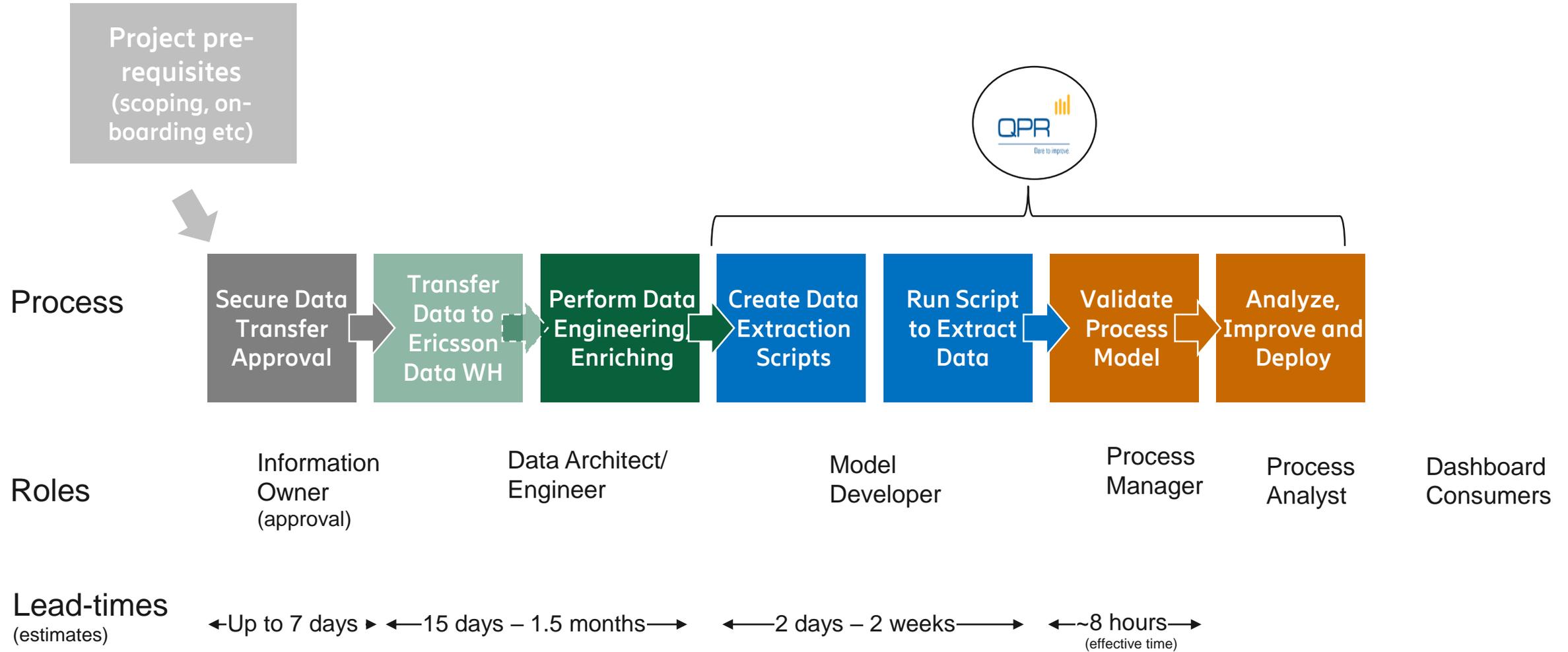
Establish Business Oriented Self Driven Teams



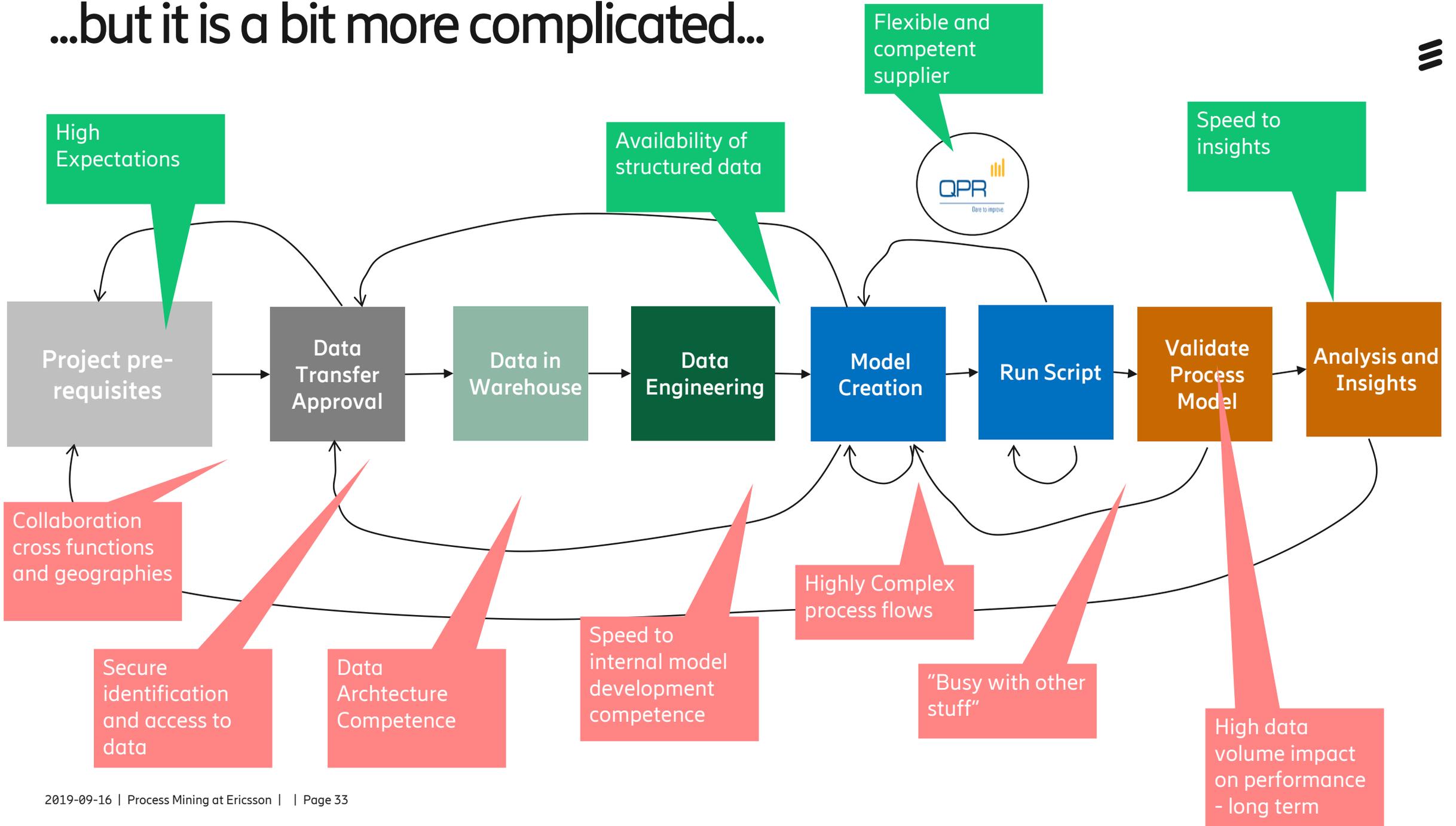
Source: Spotify's engineering culture



Data Engineering & Model Development



...but it is a bit more complicated...



What we Learned



Challenges & Learnings



CHALLENGES

- Alter a KPI and measurement mindset towards a process mining discovery mindset
- Transfer initial enthusiasm of “cool and fun” to “creation of business value”
- Keeping up the momentum
- Competence & Teambuilding in a large global company
- There is always a new hurdle to jump when trying to work in a more agile and flexible way in a traditional and hierarchical organization

LEARNINGS

- Do not give up – it takes time
- Secure tight collaboration between process, data and tools experts
- Secure engagement with business and process experts
- Start small and work close with the organization

What is your experience ?



