Sander van Lingen

Business Development Manager
for Digital Cities & Connected Societies

DELL Technologies


DELL Technologies
DELL EMC
Pivotal
RSA
SecureWorks
virtustream
vmware

TAKE THE DIGITAL COMPLEXITY AWAY

ROLE OF DELL TECHNOLOGIES

In the world of Smart Cities and New Mobility Services

ROLE OF DELL TECHNOLOGIES

Build technologies to process, store, manage & secure your data

DIGITAL CITY ACCELERATOR PLATFORM

CITIZENS PUBLIC PRIVAT

AS A SERVICE
ANALYTICS
SUPPORT
MAINTENANCE
INTEGRATE
INSTALL

SERVICES

APPLICATIONS
OPEN DATA | ANALYTICS & DEVELOPMENT AREA | APP STORE

BIG DATA
GATHER | ANALYZE | ACT

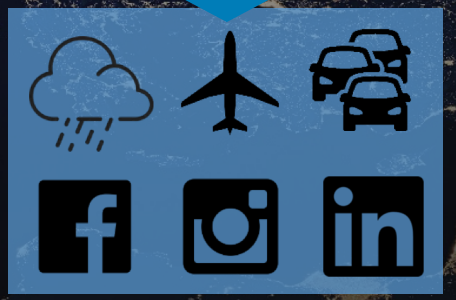
CONNECTIVITY

DATA SOURCES
IOT | CITY SYSTEMS | WEB API's

SECURITY

COMPLIANCY
AUDITABILITY
DATA MGT
POLICIES
WORKSPACES

CRM | ERP
GIS | BI
HR | FINANCE



DELL Technologies

FLEXIBILITY & INTEGRATION ALL THE WAY

Service, Application, Infrastructure & device Independence

User Experience Layer

Any Use Case


Video Surveillance


Transportation Management


Water Services


Waste Management


Infrastructure Management


Elderly Care


Environmental Management

Data & Application Layer

Any Application

Traditional | Micro services | Container | Block Chain | Code Language

Data Infrastructure Layer

Any Cloud


Public Cloud


Private Cloud


Hybrid Cloud

Data Acquisition Layer

Any Device

Any Scale

ROLE OF DELL TECHNOLOGIES

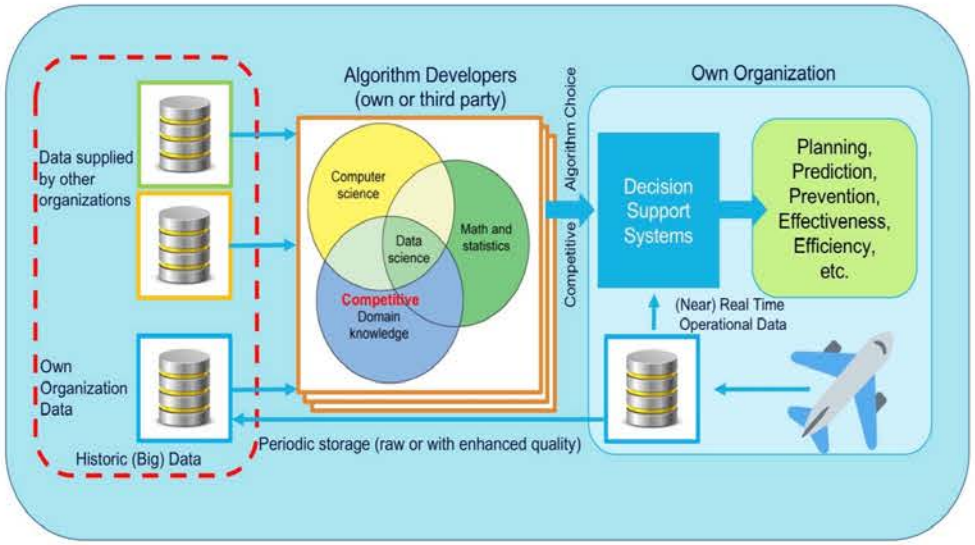
Innovate with our clients & partners


KLM

Training AI/ML models using Digital Data Marketplaces

Creating value and competition by enabling access to additional big data owned by multiple organizations in a trusted, fair and economic way

The more data - the better: an aircraft maintenance use-case



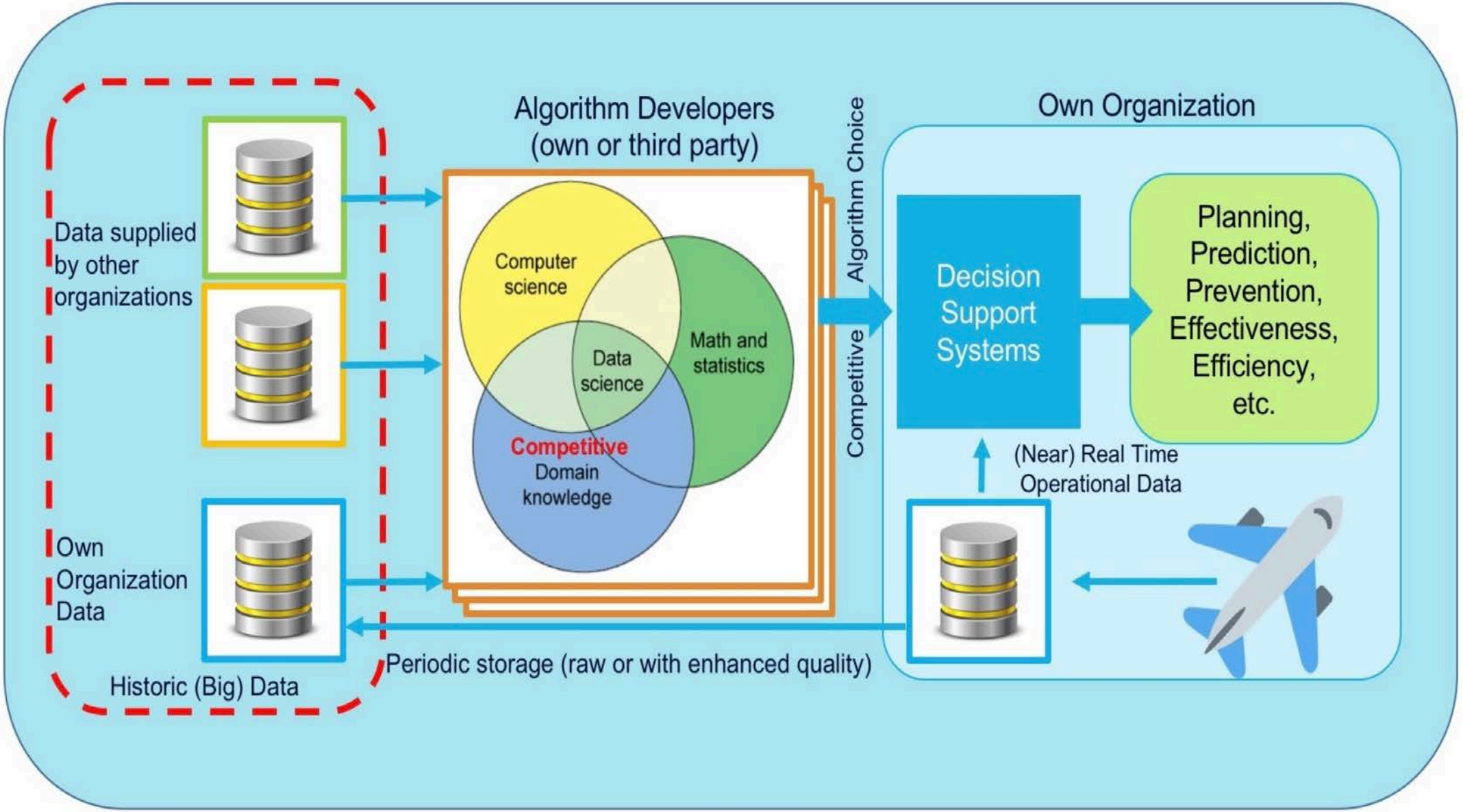
- AI/ML algorithm based Decision Support Systems create business value by supporting real-time complex decision taking such as **predicting the need for aircraft maintenance**.

- Algorithm quality increases with the availability of aircraft data.

- Multiple airlines operate the same type of aircraft.

- **Research Question:** *"How can AI/ML algorithm developers be enabled to access additional data from multiple airlines?"*

- **Approach:** *Applying Digital Data Marketplace concepts to facilitate trusted big data sharing for a particular purpose.*


Data supplied by other organizations
Own Organization Data
Historic (Big) Data
Algorithm Developers (own or third party)
Computer science
Math and statistics
Data science
Competitive Domain knowledge
Algorithm Choice
Competitive
Own Organization
Decision Support Systems
Planning, Prediction, Prevention, Effectiveness, Efficiency, etc.
(Near) Real Time Operational Data
Periodic storage (raw or with enhanced quality)

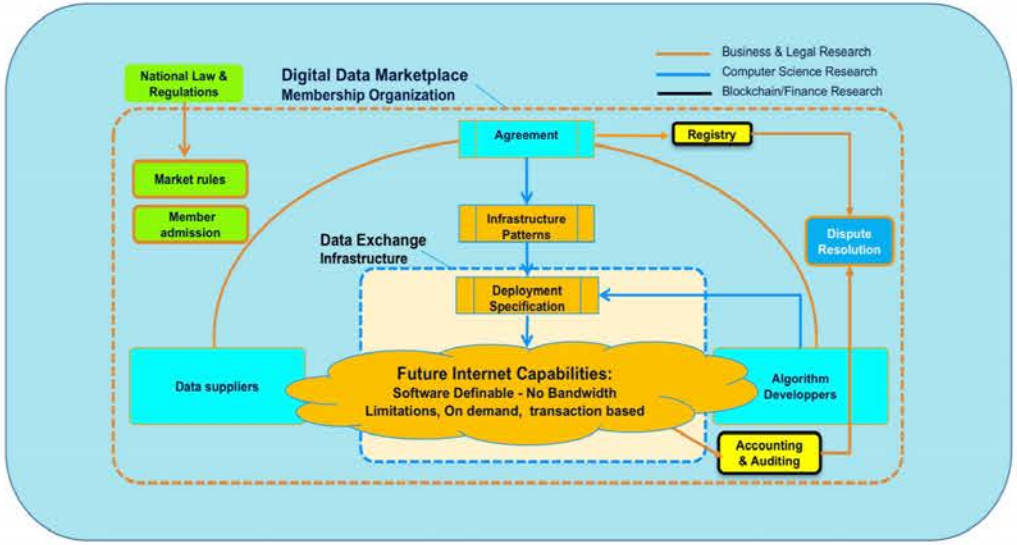
Digital Data Marketplace enabling data sharing and competition

A **Digital Data Marketplace** is a membership organization supporting a common goal: e.g. *enable data sharing to increase value and competitiveness of AI/ML algorithms.*

Membership organization is institutionalized to create, implement and enforce membership rules organizing **trust**.

Market members arrange **digital agreements** to exchange data for a **particular purpose** under specific conditions.

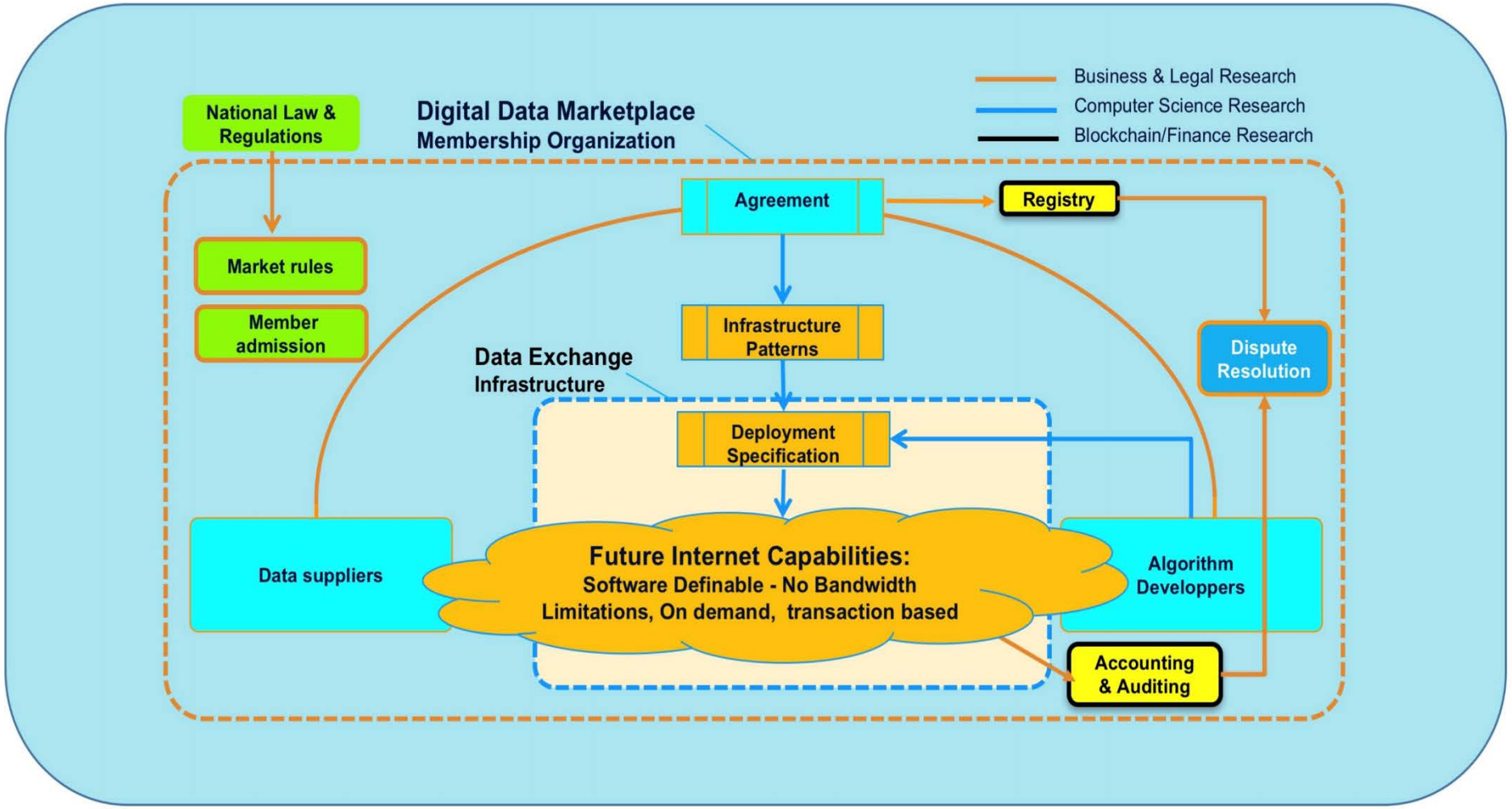
Agreements subsequently drive data science transactions creating processing infrastructures using infrastructure patterns offered by a Data Exchange as **Exchange Patterns**.



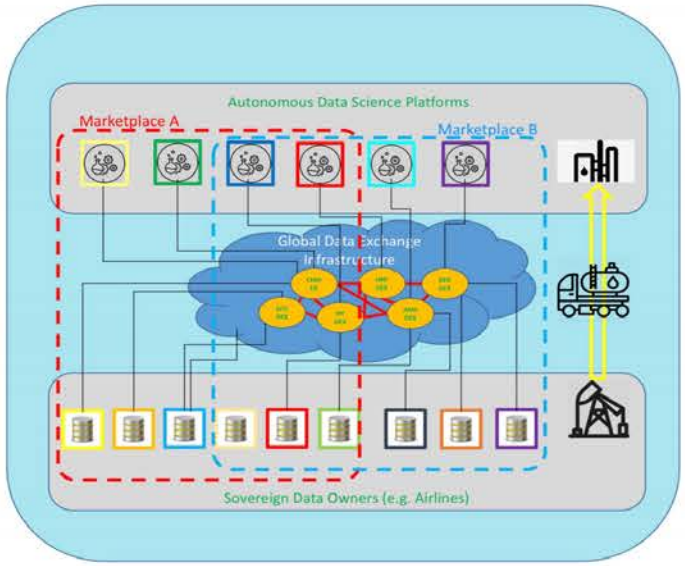
Leon Gommans, Anne Savelkoul, Wouter Kalfsbeek, Dirk van den Herik, David Langerveld, Erik IJzermans, Floris Freeman, Brend Dikkers, Cees de Laat, Tom van Engers, Wouter Los, Paola Grosso, Joseph Hill, Reggie Cushing, Giovanni Sileno, Lu Zhang, Ameneh Deljoo, Thomas Baeck, Willem Koeman, Laurie Strom, Axel Berg, Gerben van Malenstein, Kaladhar Voruganti, Rodney Wilson, Patricia Florissi

https://sc.delaat.net/sc18/posters/SC2018PosterLGv0.5.pdf

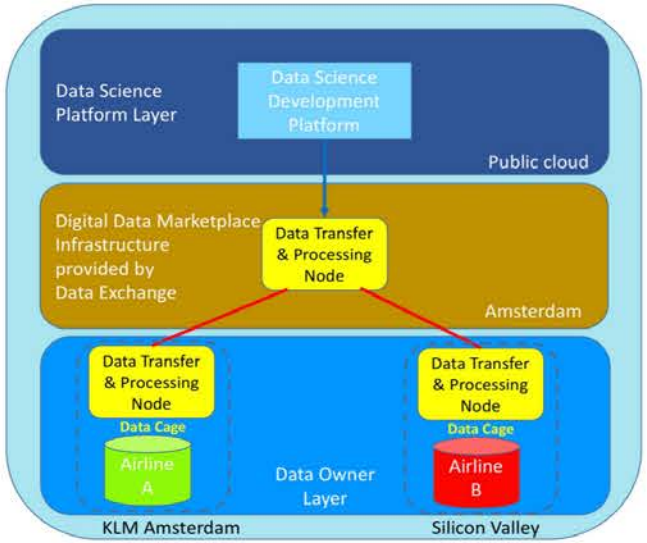
Digital Data Marketplace enabling data sharing and competition



Researching Exchange Patterns to support Digital Data Marketplaces



Data Exchange Model



Research Infrastructure

Trust Modelling:
What is the optimal infrastructure archetype, describing storage and processing locations and their relationships, which best suit member requirements when considering risk?

Processing Models:
What are the implications of distributing data processing across membership organization owned infrastructures in terms of achievable model accuracy and processing performance using federated/distributed models vs centralized models

Marketplace Reference Architecture:
What constitutes a marketplace? Researching needed functions, personas, flows, credentials, contracts & rules, conflict resolution, and much more …

Research Elements

Leon Gommans, Anne Savelkoul, Wouter Kalfsbeek, Dirk van den Herik, David Langerveld, Erik IJzermans, Floris Freeman, Brend Dikkers, Cees de Laat, Tom van Engers, Wouter Los, Paola Grosso, Joseph Hill, Reggie Cushing, Giovanni Sileno, Lu Zhang, Ameneh Deljoo, Thomas Baeck, Willem Koeman, Laurie Strom, Axel Berg, Gerben van Malenstein, Kaladhar Voruganti, Rodney Wilson, Patricia Florissi

https://sc.delaat.net/sc18/posters/SC2018PosterLGv0.5.pdf

WHY?

IS AMSTERDAM INVESTING..

THANK YOU!

Sander van Lingen

Business Development Manager
for Digital Cities & Connected Societies

sander.vanlingen@dell.com
+31 6 101 848 70

DELL Technologies