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Virtual Reality Process Visualization @ OTTO

aka “Geheimprojekt URSULA”

Andre Pietsch | Productmanager Splunk @ OTTO

September 27, 2017 | Washington, DC

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OTTO And The Partners Involved

Who is we?

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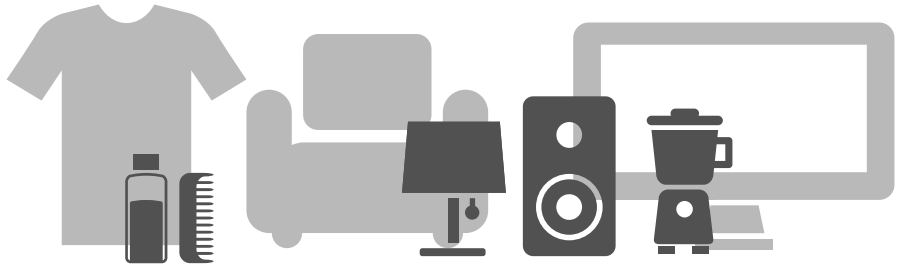
OTTO – Number 1 In Fashion & Lifestyle*

Over 2,2 million
items online

The only ‘big book’ company to make the jump into the digital world



Huge product portfolio from fashion and lifestyle to household appliances and multimedia, DIY, kitchens, furniture and toys

120
specialist catalogues

6.000
brands (in-house and many premium third-party brands)

8 specialist online shops

ekinova Der Küchengeräte Shop
CNOUCH Das ist mein Sofa!
plenty1ne
PAUL
PAULA
neckermann.de
naturloft Landhausmöbel aus gutem Holz
Schlafwelt schlafen Sie besser
yourhome

*B2C mail order, GfK figures 2014

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OTTO · Large And Loyal Customer Base

meets service on an equal footing

20 million
orders per year

1,9 million
visits per day

circa 6 million
active customers

Less than 10 seconds
to answer calls

2,000
service staff

Available 24/7
including mail, chat, FB

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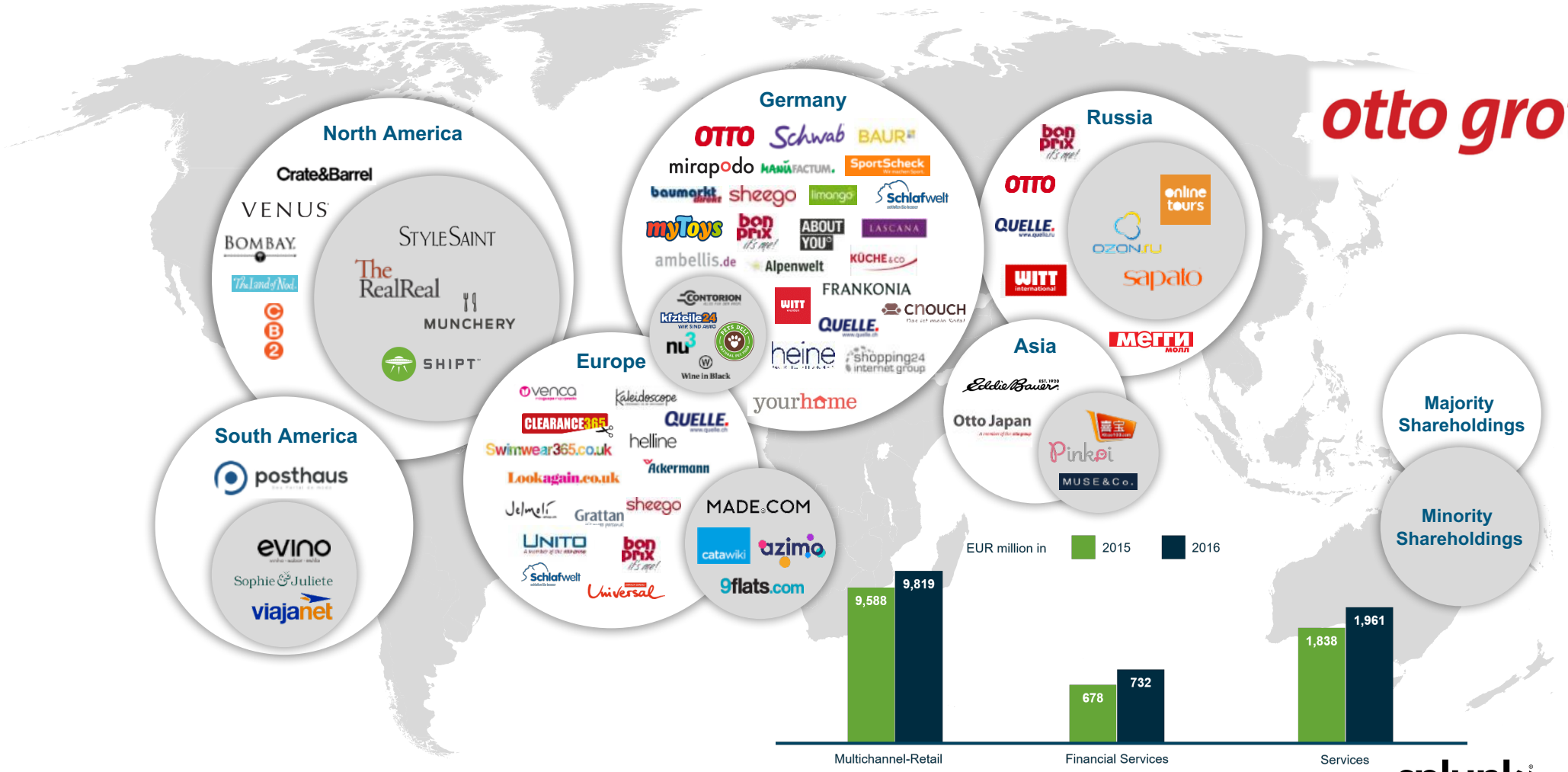
OTTO - Part Of The Otto Group

Globally successful with a wide range of e-commerce brands



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The Partners Involved

These partners supported the project

Dell EMC, a part of Dell Inc., enables organizations to transform their data center using industry-leading converged infrastructure, servers, storage and data protection technologies. This provides a trusted foundation for businesses to transform IT, through the creation of a hybrid cloud, and transform their business through the creation of cloud-native applications and big data solutions.

dellemc.com

Gemini Data's solutions reduce complexity of big data and leverage AI to achieve true situational awareness. Drive digital transformation by automating management of big data platforms with Gemini Data. Accelerate data comprehension to reduce investigation time and seamlessly transfer knowledge amongst teams. Headquartered in San Francisco with global offices, Gemini Data serves customers worldwide.

geminidata.com

As an innovative and globally active Swiss company, LC Systems has for more than 25 years been offering high-quality, comprehensive and well-established services in the field of data analytics along the entire value chain: from strategic consulting, realization and further development through to the managed service. LC Systems employs over 50 data analytics specialists at its sites in Switzerland and Germany.

www.lcsystems.ch

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Processes Are Way Too Complex

What is our problem?

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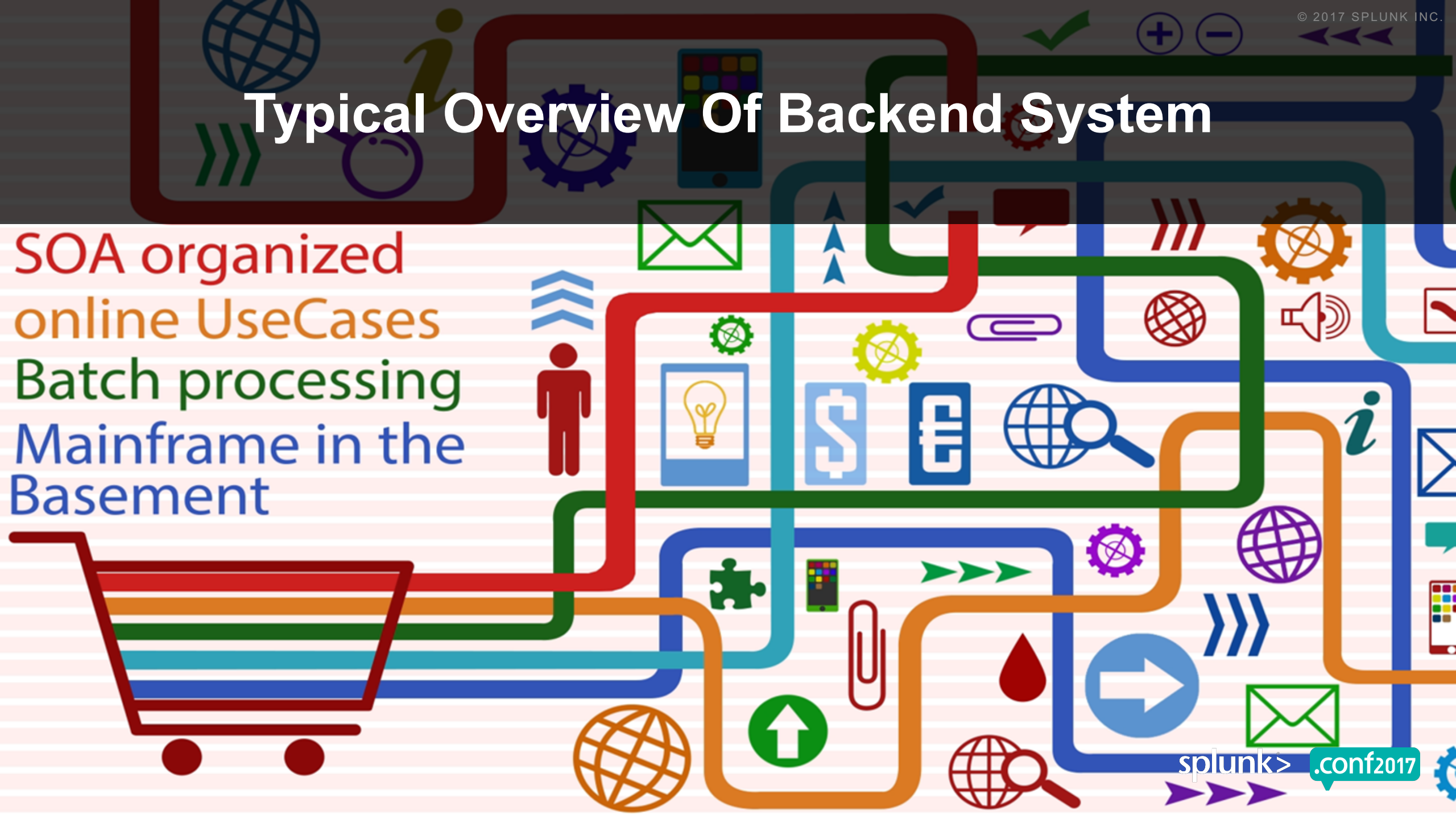
Typical Overview Of Backend System



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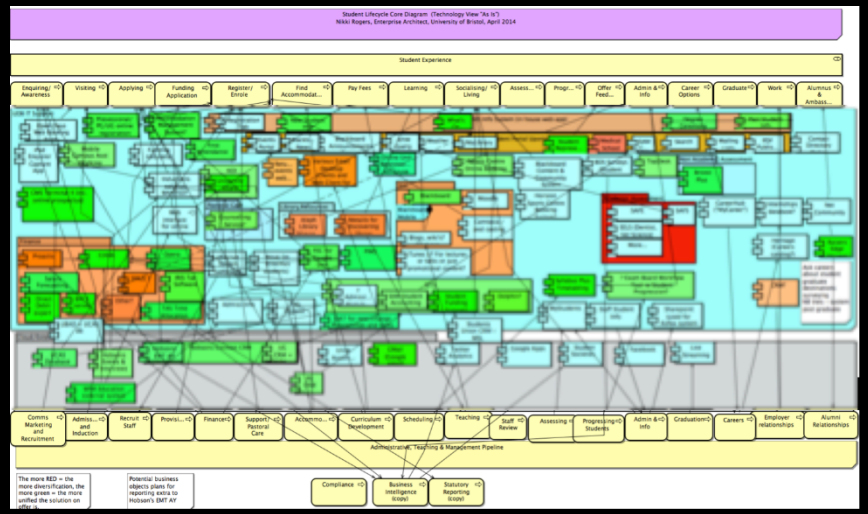
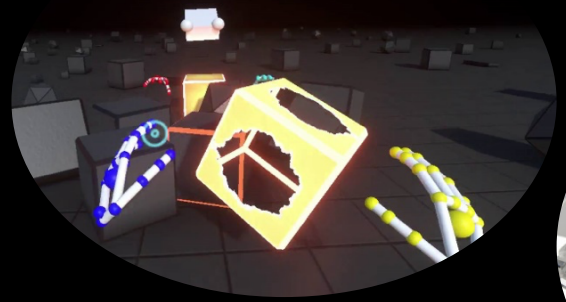
Usage Of VR Could Offer New Possibilities

That's the theory

- Current Situation
  - Processes are difficult to understand
  - Visualizations only provide static level of detail
  - ➢ Complexity is not illustratable



- New Possibilities
  - Different flight levels
  - Different views
  - ➢ Complexity becomes comprehendible



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Impressive VR Use Cases Out There

But what about the simple ones?

Known use cases , but…

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Geheimprojekt URSULA

secret projekt for splUnk vR proceSs visUaLizAtion

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B2B Has Far More Obvious VR Use Cases Than B2C

	B2C		B2B
	virtual content has to be redesigned from data or real life	<	content is already virtual
	physical content has to be designed for virtual environment	<	content just needs another form of representation
	higher demands on content quality	<	low to medium requirements for content quality
	dynamic content leads to higher maintenance	<	lower maintenance because of relatively static content

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What The Partners Provided

VR Hardware

VR ready Laptops

VR Setup (Oculus Rift)

Data Sources

Splunk Instances on AWS

Example Data

Product Mockup

Product viability

VR implementation process

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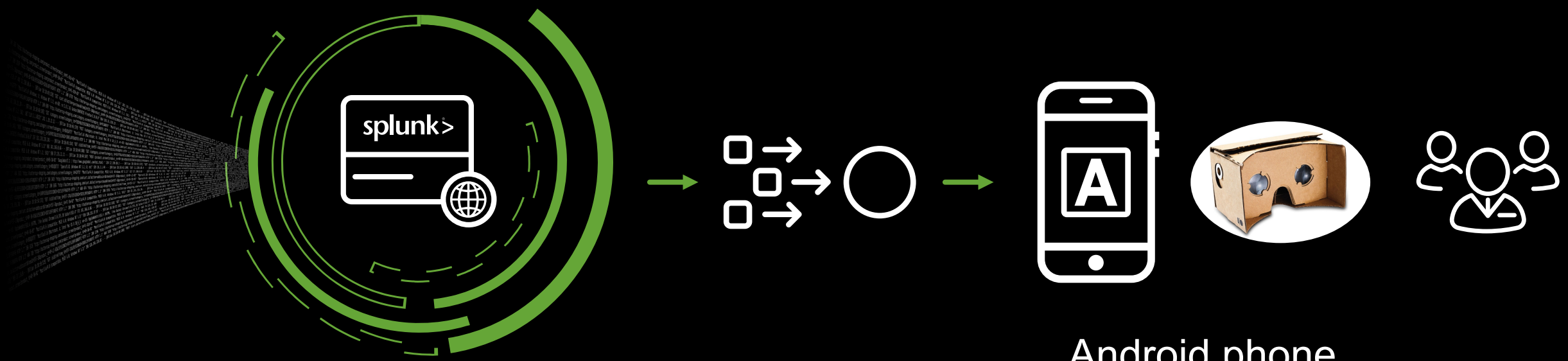
URSULA – Simple Architecture



Data

REST call

Android phone
/w Cardboard

GEMINI DATA

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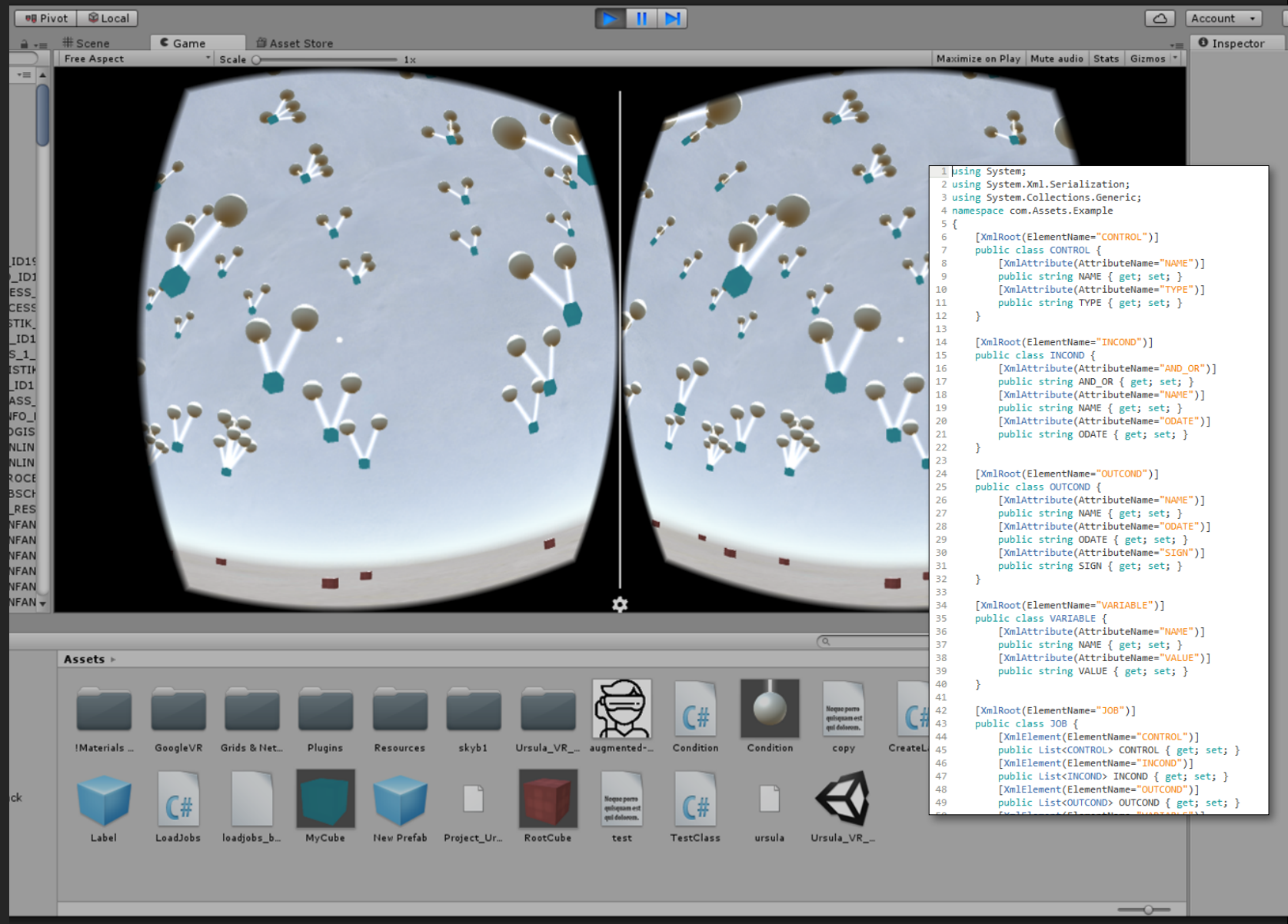
Unity 3D

unity3d.com

one intern

six weeks



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Process Visualization

2000 virtual objects

on a mobile device

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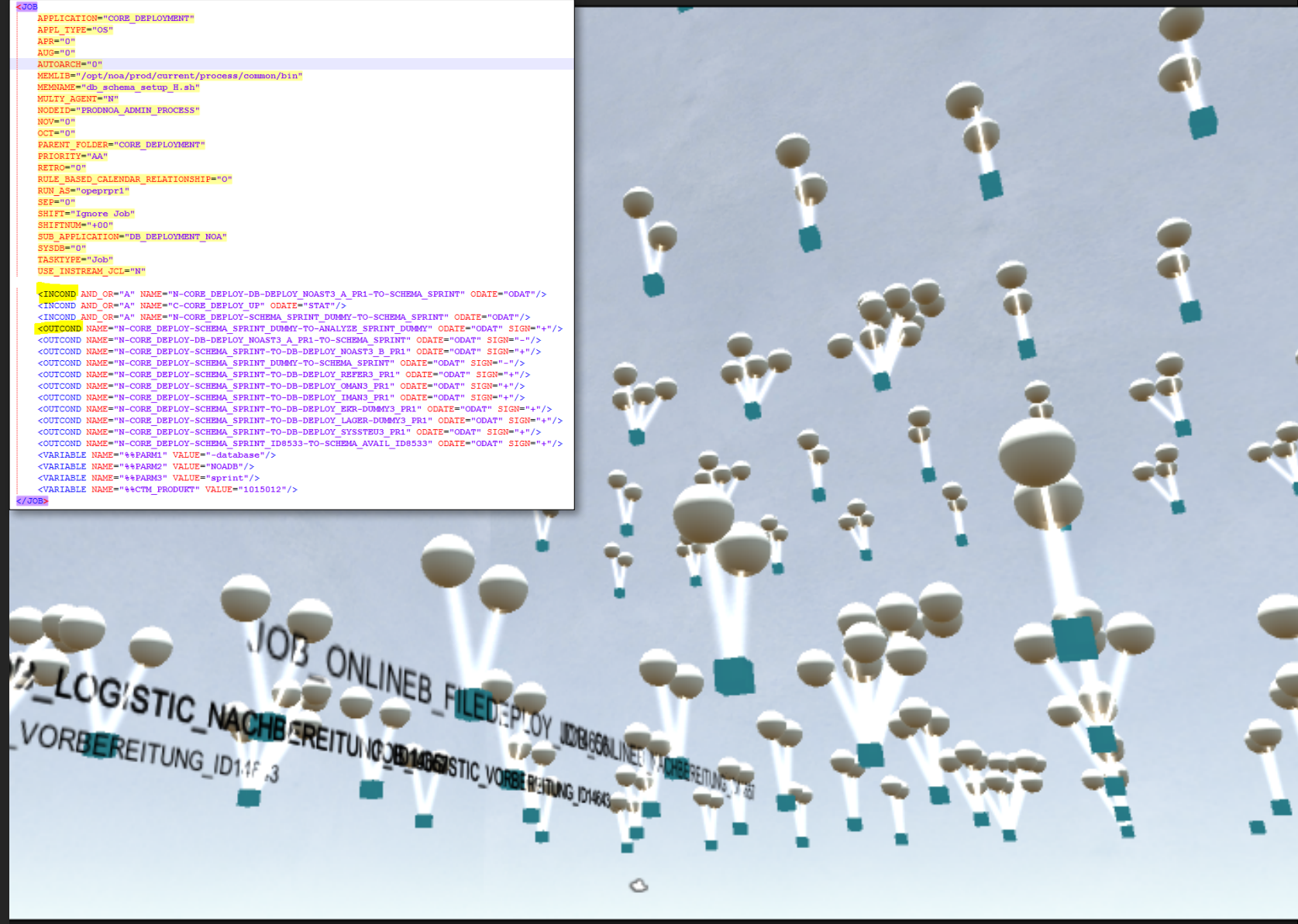

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We Needed Better Hardware

DELL EMC

Processor:

- *Intel Core Xeon E3-1535M v6 Quad Core 3.10GHz – 4.20GHz, 8MB*

RAM:

- *16 GB DDR4*

HDD:

- *250 GB (HGST Travelstar)*
- *1TB SSD (Samsung 960 EVO)*

Graphics

- *Radeon Pro WX 7100 8GB*
- *NVIDIA Quadro P4000 8GB*

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Product Viability

What could a product look like?

Level 1:

Visualization of a process

- ***Approx. 10 days***
- ***Assumption:***
- Consultant gets all the necessary sources
- ***Result:***
- Presentation of process on CardBoard boxes

Level 2:

Mapping of Live Data

- ***Approx. 15 additional days***
- ***Assumption:***
- Access to monitoring data and mapping information
- ***Result:***
- Live data sources are mapped to the nodes
- Presentation + customer can keep the CardBoard boxes

Level 3:

Interaction with the Systems

- ***Approx. 25 additional days***
- ***Assumption:***
- REST endpoints for interaction exist
- ***Result:***
- Interaction from within the app with elements via REST
- Presentation + customer can keep the CardBoard boxes and VR Setup

LC SYSTEMS

- Talked about viability with partner. This is currently not a product.
- If interested: contact the partner for more information.

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Data Science Process

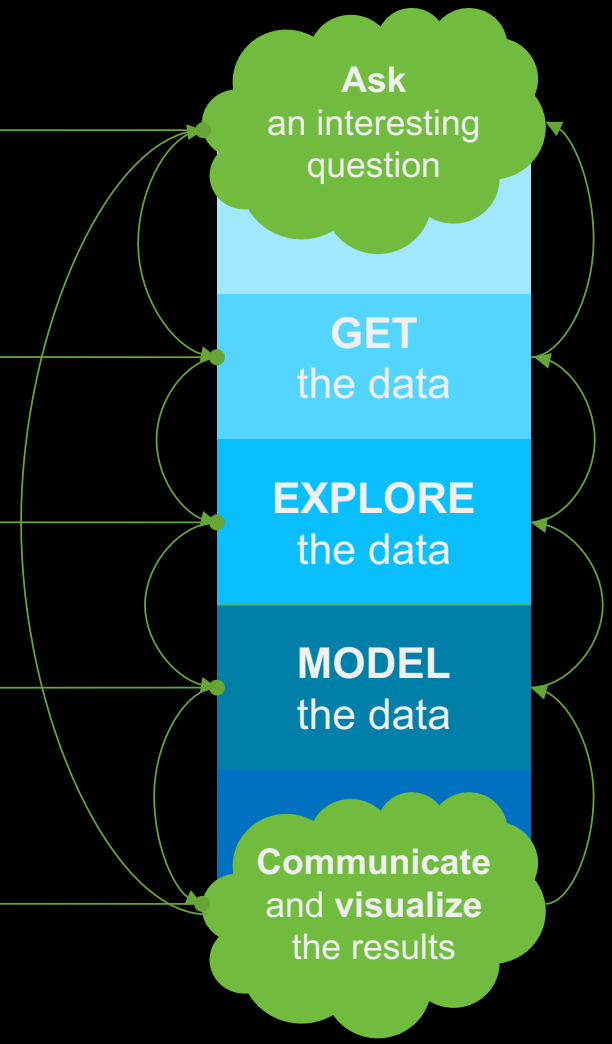
What is the scientific **goal?**
What would you do if you had all **data?**
What do you want to **predict** or **estamate**?

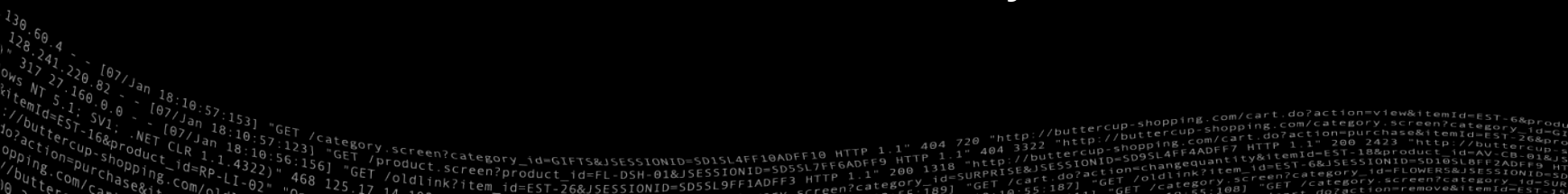
How was the data **sampled**?
Which data is **relevant**?
Are there **privacy** issues?

Plot the data
Are there **anomalies**?
Are there **patterns**?

Build a model
Fit the model
Validate the model

What did we **learn**?
Do the results make **sense**?
Can we tell a **story**?





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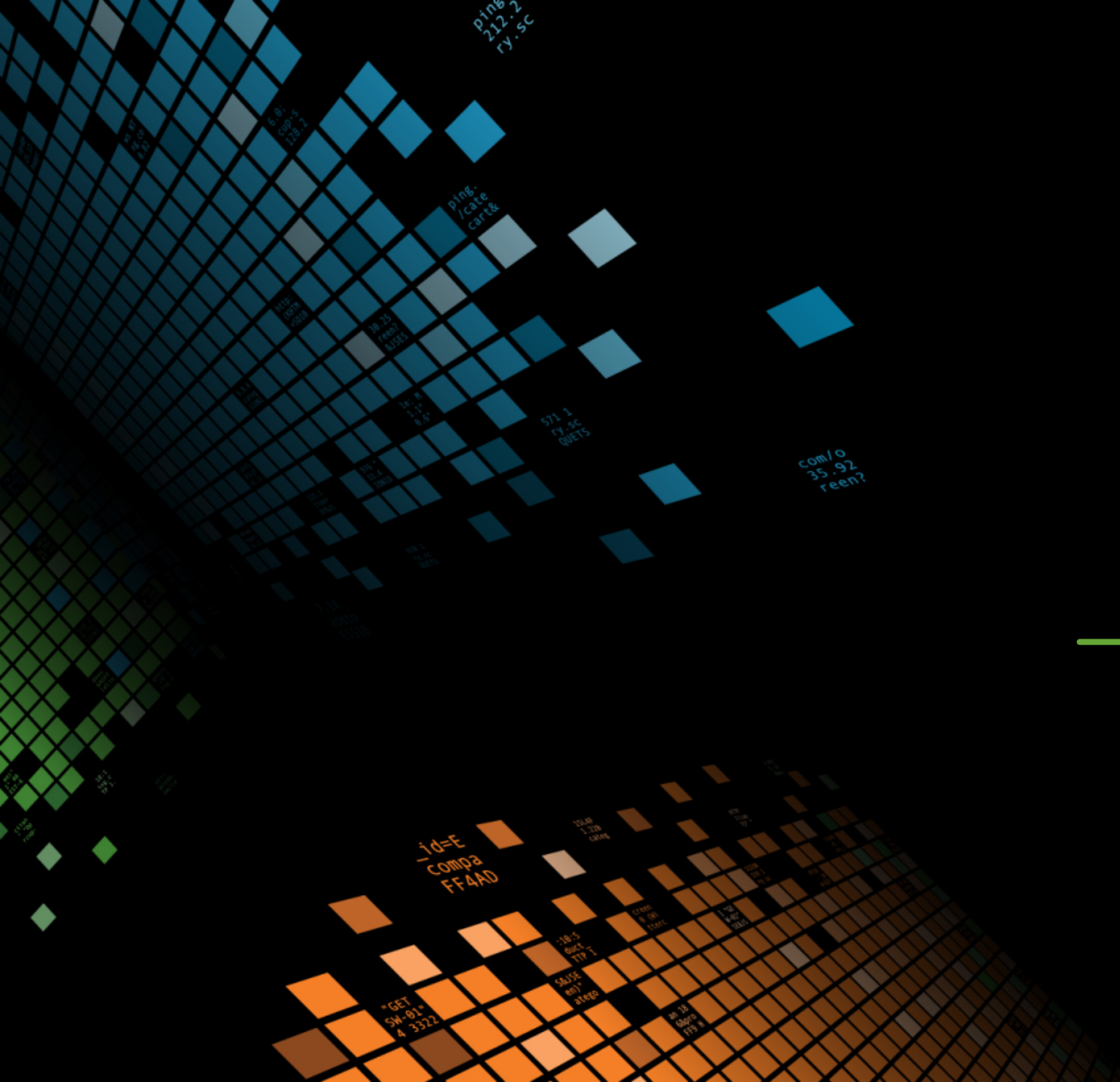

Demo

Show me what you got…

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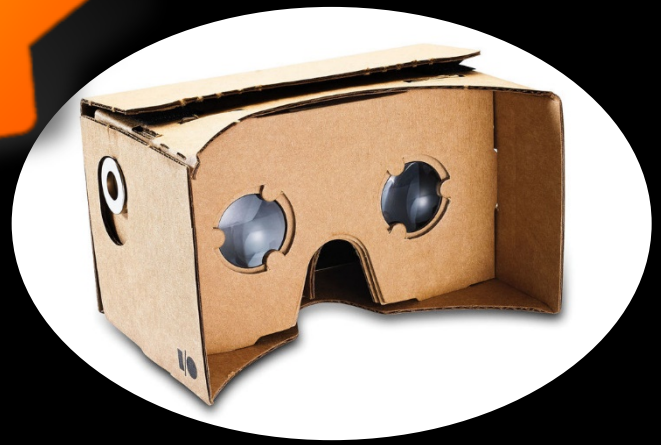
Demonstration Of The Results



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Geheimprojekt
URSULA

OTTO

splunk> VR process visualization
the next big shit

proudly supported by

DELL EMC

GEMINI DATA

LC SYSTEMS

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Conclusions And Possible Use Cases

What have we learned from URSULA and where will we go from here?

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Conclusions

What have we learned from URSULA?

1. Visualization of data in VR is nothing from a distant future
2. Implementation of use cases is viable and fast because processes and data are already virtualized
3. Apprehension and analysis of processes can be fun
4. Work with partner(s) who have the necessary tools, knowledge and / or experience (obviously…)

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Possible Use Cases

Where will we go from here?

1. Comprehension of current processes:
   - Critical paths, complexity of interfaces, relevance of processes, cause-effect relationships, merge and split of processes
   - Support large projects with another level of transparency
2. Visualization of different flight levels
   - Business process > technical process > machine
   - Customer journey, order2cash, fulfillment, …
3. Monitoring and operation of processes
   - Human-machine-interaction

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Thank You

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