# The Assaia
# Turnaround Cockpit
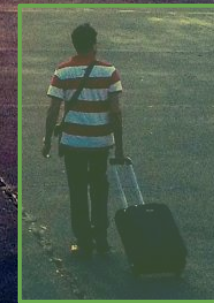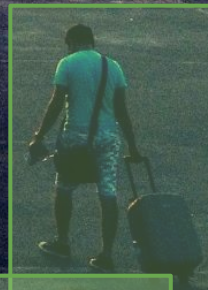
Airstair_
connected_

Queue_

Pax_
boarding_

Pax_
boarding_

Cone_

Cone_

Pax_
boarding_
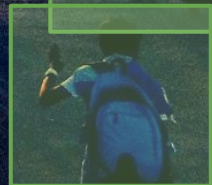
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# WE NOW LIVE IN A DATA ECONOMY

US GDP — 3.8%

Information sector — 12.5%
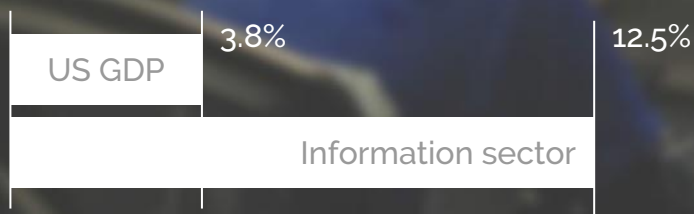
Avg. Annual Growth 2001–2016

Source: Bureau of Economic Analysis.

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# WE'RE ENTERING A NEW WORLD

| Era | BC | 1975 | Today |
|---|---|---|---|
| Technology | Pen & Paper | PCs | Machine Learning |

**structured data**
spreadsheets, sensor data,...

inaccessible ⟶ ● **accessible**

**unstructured data**
video, images, audio, text,...

inaccessible ⟶ ● **accessible**

OLD WORLD      NEW WORLD
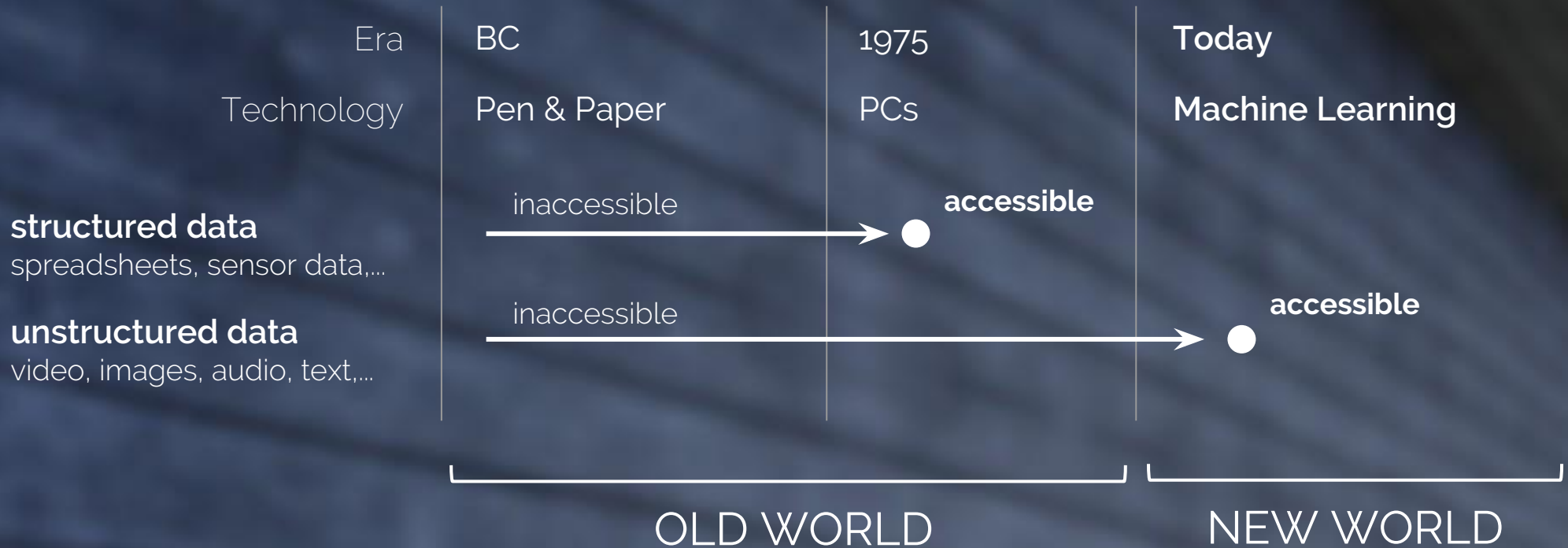
## 80% of all data in the world is unstructured.
It's held captive in video, images, audio, text, etc.

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# THE COMPANIES THAT MASTERED THE 20% STRUCTURED DATA PROSPERED.

Google    amazon.com    facebook

## TOTAL VALUE: $2 TRILLION

# NOW, THEY ARE GOING AFTER UNSTRUCTURED DATA FULL THROTTLE.

## $600,000
est. revenue *per hour* from voice-based orders through Amazon's Alexa, 2018

## $3,000,000
est. revenue *per hour* from voice-based orders through Amazon's Alexa, 2020

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THE AVIATION INDUSTRY IS SITTING ON
A TROVE OF UNSTRUCTURED DATA.

A MAJOR SOURCE:
**TERABYTES OF VIDEO FOOTAGE PER DAY.**

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2018 Finalist of the IATA
IGHC Innovator Award

WE USE RAMP VIDEO FEEDS

TO **UNDERSTAND & PREDICT TURNAROUNDS**
AND **PREVENT ACCIDENTS**

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# AUTOMATED TIMESTAMPS

*Airports already have CCTV in place to monitor the ramp.*

*We augment this infrastructure with Machine Learning technology.*

*Our technology captures a time-stamp for every event that is happening during a plane turnaround.*

OLD WORLD:

Not captured

Manually captured

Expensive sensors

Data ends up in silos

*your choices*

NEW WORLD:

Every event is captured

Automatic & reliable

Available in real-time

Data is shared

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# PREDICTIONS

*We can use the high-resolution timestamps to look into the future.*

*We feed them into a machine learning algorithm that reliably forecasts the time when the plane is ready for departure (e.g., pushback ready).*

*This way, everyone knows a turn's status, and when the plane will leave the stand.*

*Thus, resources are used more efficiently, and delays are reduced.*

## OLD WORLD:

Slots are managed based on plans

Reality takes over

Information not flowing

*your choices*

## NEW WORLD:

Everyone has live info

Delays are reduced

Efficient stand & runway use

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# ACCIDENT PREVENTION

*Accidents happen because things don't go as planned.*

*We have taught our algorithms what is right and what is wrong.*

*The computer knows that a worker not wearing a high-visibility vest is in risk. It knows that foreign object debris can cause harm. And so on.*

*It's kind of like a guardian angel.*

## OLD WORLD:

Erratic monitoring

Hazards not detected in time

Incidents happen

*your choices*

## NEW WORLD:

24/7 monitoring

Alerts ahead of time

Incidents prevented

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# ACCIDENT PREVENTION

## SCENARIO:

*You want to eliminate injuries and damage. There's a lot that can go wrong:*

*«aerobridge not retracted at plane arrival», «foreign object on the tarmac», «equipment outside storage zone»,...*

**EVERY INJURY, EVERY DAMAGE IS ONE TOO MANY.**

## OLD WORLD:

*You create regulations and enforce their compliance with manual, erratic audits.*

*You train your employees to follow the regulations.*

*You cannot monitor every ramp all day long.*
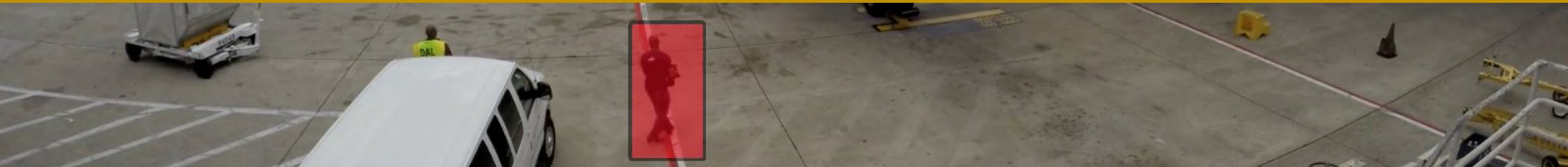
**HUMANS WILL ALWAYS MAKE ERRORS.**

## NEW WORLD:

*An intelligent computer is monitoring every ramp 24/7.*

*It alerts you when it detects a hazardous situation.*

*The footage is also used to automatically generate audit reports.*
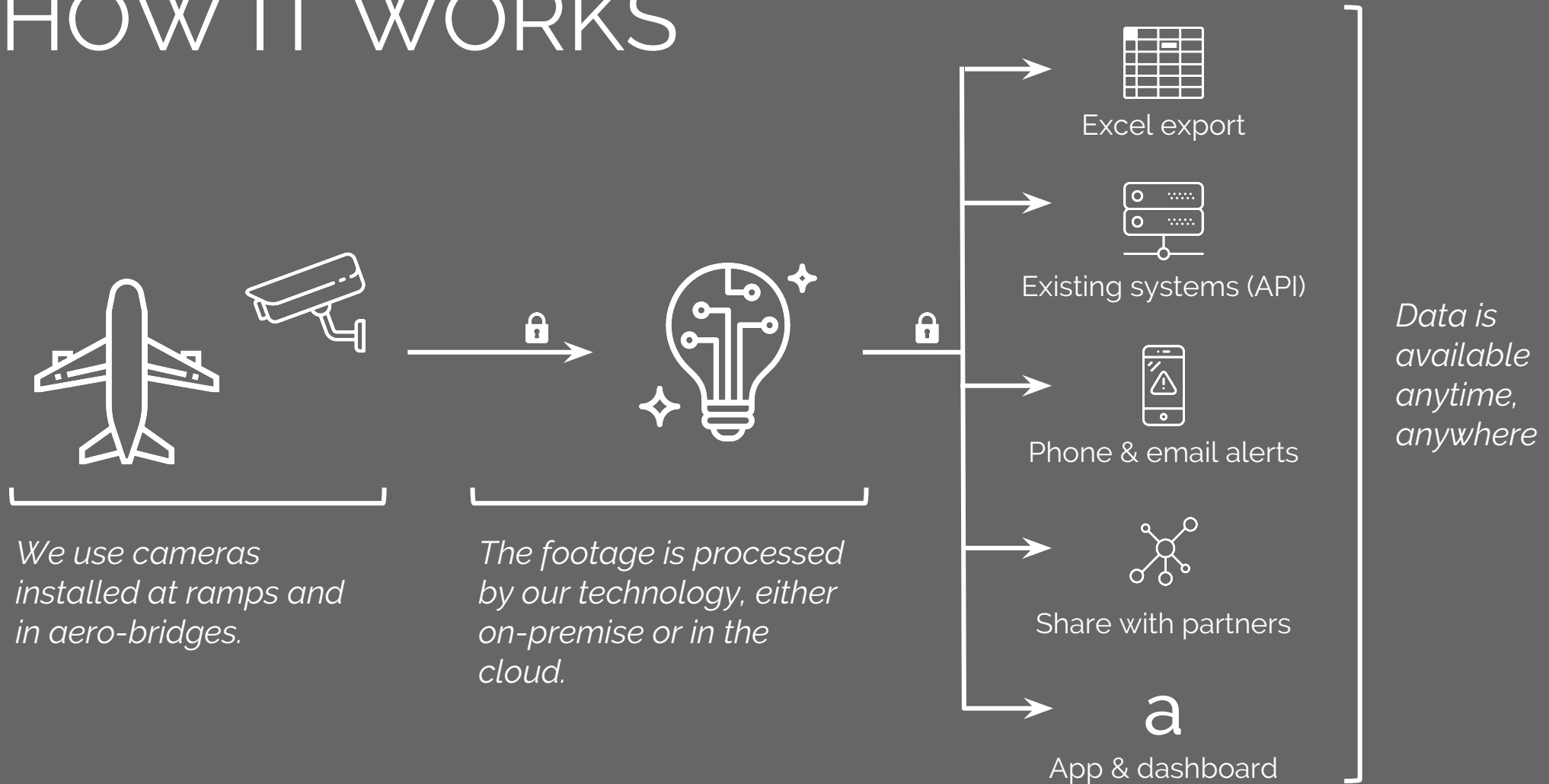
**INJURIES & DAMAGES ARE PREVENTED. HEALTHY WORKERS & CUSTOMERS. HAPPY INSURERS.**

*The system detected a person not wearing a high-visibility vest.*

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# HOW IT WORKS

Excel export

Existing systems (API)

Phone & email alerts

Share with partners

a

App & dashboard

*Data is available anytime, anywhere*

*We use cameras installed at ramps and in aero-bridges.*

*The footage is processed by our technology, either on-premise or in the cloud.*

✔ No additional equipment required

✔ Flexible deployment suiting most requirements
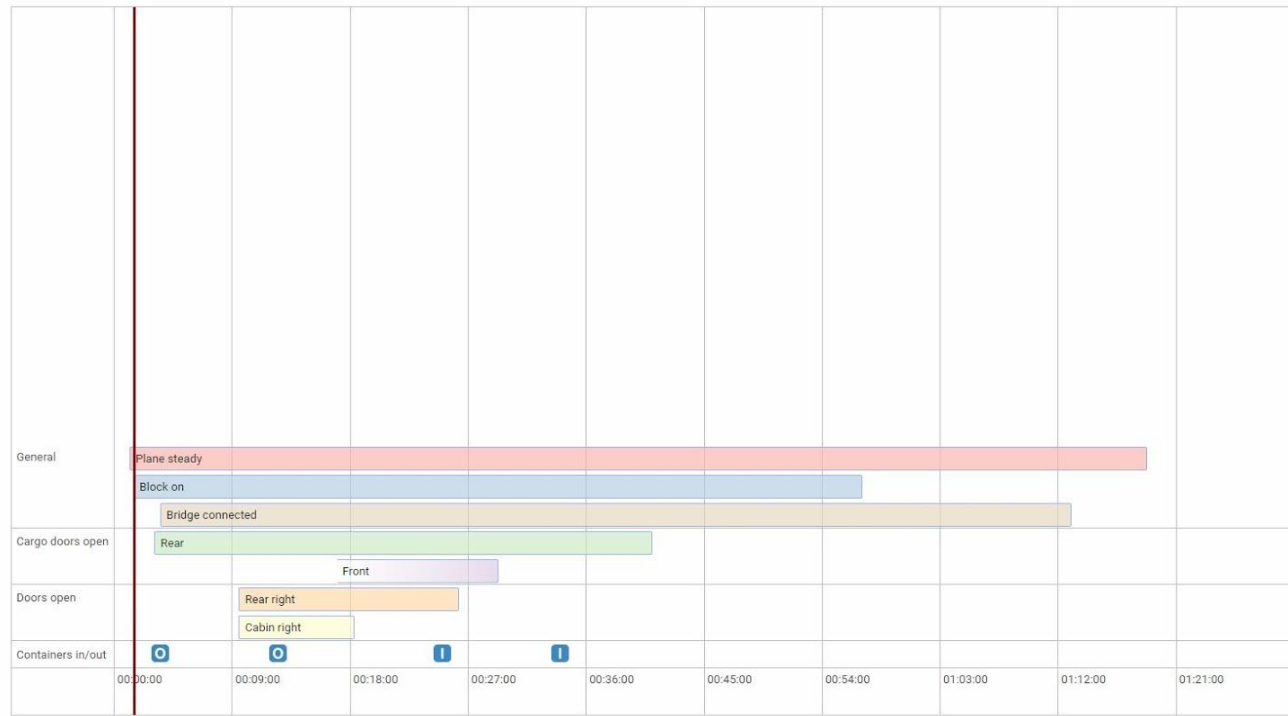
✔ Data is available across the entire ecosystem

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# PRODUCT DEMO



Please click on the image or use this link to see the product in action: *https://assaia.com/tmc*

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# FEATURE SUMMARY

### TIMESTAMPS

Automatic, unbiased, realtime

Records every event in a turnaround

Single source of truth

### PREDICTIONS

Forecast of key process times

Realtime comparison of target vs. actual performance

### ACCIDENT PREVENTION

Ongoing monitoring

Ensures proper equipment storage (aerobridge retraction, vehicle parking, etc.)

Warns when precautions are not taken (high visibility vest)

Automated compliance reports

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# EXPERT OPINION

*«This technology helps our partners and us tremendously to increase our service levels even further.»*

— Florian Eggenschwiler
Head of Innovation, Swissport

swissport

# DRIVING PROFITABILITY

### CAPTURE ALL SERVICES
Automatic logging of all rendered services & timestamps. Reliable data available for analysis & invoicing.

### PREVENT ACCIDENTS
24/7 real-time monitoring of all ramps. Immediate alerts in case of hazards.

### IMPROVE SERVICE LEVEL
Discover the causes for delays, hold partners accountable, and optimize your processes.

### REDUCE MANUAL EFFORT
No more data digitization required. Audit reports at the touch of a button.

### OPTIMIZE CONTRACTS
Monitor KPI compliance. Modern SLAs may include bonus components for good work.

### OPTIMIZE RESOURCE USE
Provision the optimum equipment. Use stands and runway more efficiently. Prevent delays before they materialize.

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# BENEFITS

| Category | Benefit | Ground Handling Solution Providers | Airlines | Airports & other authorities | Description |
|---|---|:---:|:---:|:---:|---|
| **INCREASE REVENUE** | Eliminate revenue leakage | ✔ | | ✔ | *Every provisioned service is reliably captured.* |
| | Implement better aligned SLAs | ✔ | ✔ | ✔ | *Bonus/malus systems can now be reconciled.* |
| **IMPROVE EFFICIENCY** | Automatically validate SLAs | ✔ | ✔ | ✔ | *Deviations are automatically identified.* |
| | Automated capturing of service provision | ✔ | | ✔ | *No manual accounting or handwritten notes.* |
| | Determine causes & responsibilities for delays | ✔ | ✔ | ✔ | *Find out where and how to optimize.* |
| | Remedy delays before they materialize | | ✔ | ✔ | *Thanks to machine learning-based predictions.* |
| | Improve planning and system calibration of resources | ✔ | ✔ | ✔ | *Optimize your equipment capacity utilization.* |
| | Coordination of hub activities | | ✔ | | *Real-time insight for each turnaround process.* |
| | Predict and manage target off-block times | | ✔ | ✔ | *Support Airport Collaborative Decision Making.* |
| | Manage aircraft stands & availability | | | ✔ | *Utilize airport stands better through data.* |
| **ENHANCE REPORTING** | Analyze performance of providers | ✔ | ✔ | ✔ | *Every time a service is rendered, data is collected.* |
| | Shared & reliable single source of truth for reporting | ✔ | ✔ | ✔ | *Every authorized party can access the data.* |
| | Safety audit reports at the touch of a button | ✔ | | ✔ | *Safety-related events are compiled.* |
| **PREVENT ACCIDENTS** | Prevent accidents from happening | ✔ | ✔ | ✔ | *Automatic alerts in case of hazardous situations.* |
| | Lower insurance premiums | ✔ | | ✔ | *Thanks to improved safety record.* |

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# WAIT, THERE'S MORE

## EXISTING CAMERAS OR ASSAIA'S HARDWARE
We try to use already existing cameras (e.g., CCTV) when possible. If not, we add additional cameras.
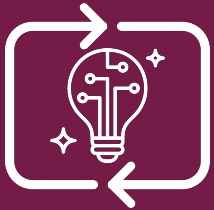
## SELF-IMPROVING
Just like a child growing up, our technology gets better the more it has seen and processed.

## ROBUST AGAINST WEATHER & LIGHT CHANGES
If you can see the event with your naked eye, so can the computer. Since most cameras have a built-in night mode, darkness is not an issue either.

## EDGE PROCESSING
We ensure that no video material is leaving your premises. We provide hardware that does the processing right at the ramp. Its only output is structured data.

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# OUTLOOK

We usually deploy our technology in 3 steps, in close collaboration with our customers.

## 1. SMALL-SCALE PILOT

Based on video recordings. You just send us the video recordings of the last month for a couple of positions. We prove that our solution generates the value you expect.

## 2. SOFT ROLL-OUT

Coverage for the busiest positions. Following the 80/20 rule, we ensure that we unlock the sources with the highest value first. Video is processed in real-time.

## 3. FULL ROLL-OUT

Coverage for all positions. In some cases, additional cameras (e.g., to timestamp the boarding process inside the aerobridge) are also added to increase the resolution of the collected data.

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# GET IN TOUCH

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The Vision Company

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**About Assaia**

We're teaching computers to understand the world like we humans do. To achieve this. we leverage the latest advancements in neural networks, the technology behind what is colloquially referred to as «Artificial Intelligence».