Statkraft

Pure energy that innovates, inspires a better future

Statkraft Peru aims at eliminating risk, generating efficiency for a better quality of living and adding value to the information with creativity and innovation.

DRONE
Beyond reality

3D PRINTER
Robotic Arm

Safety

Security
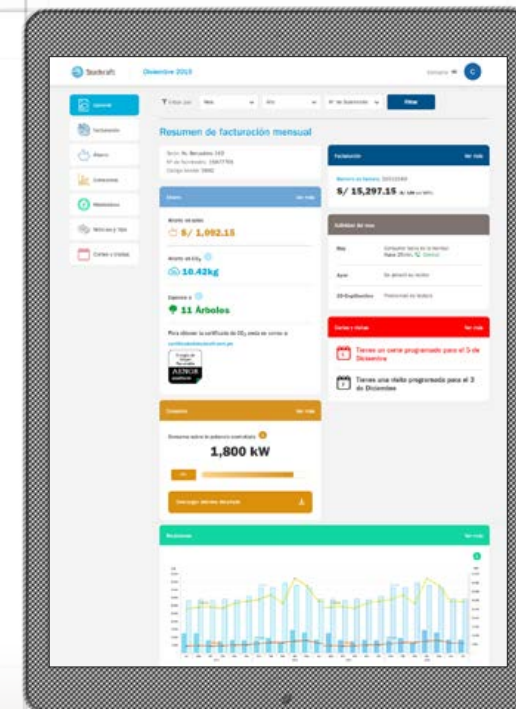
Operations
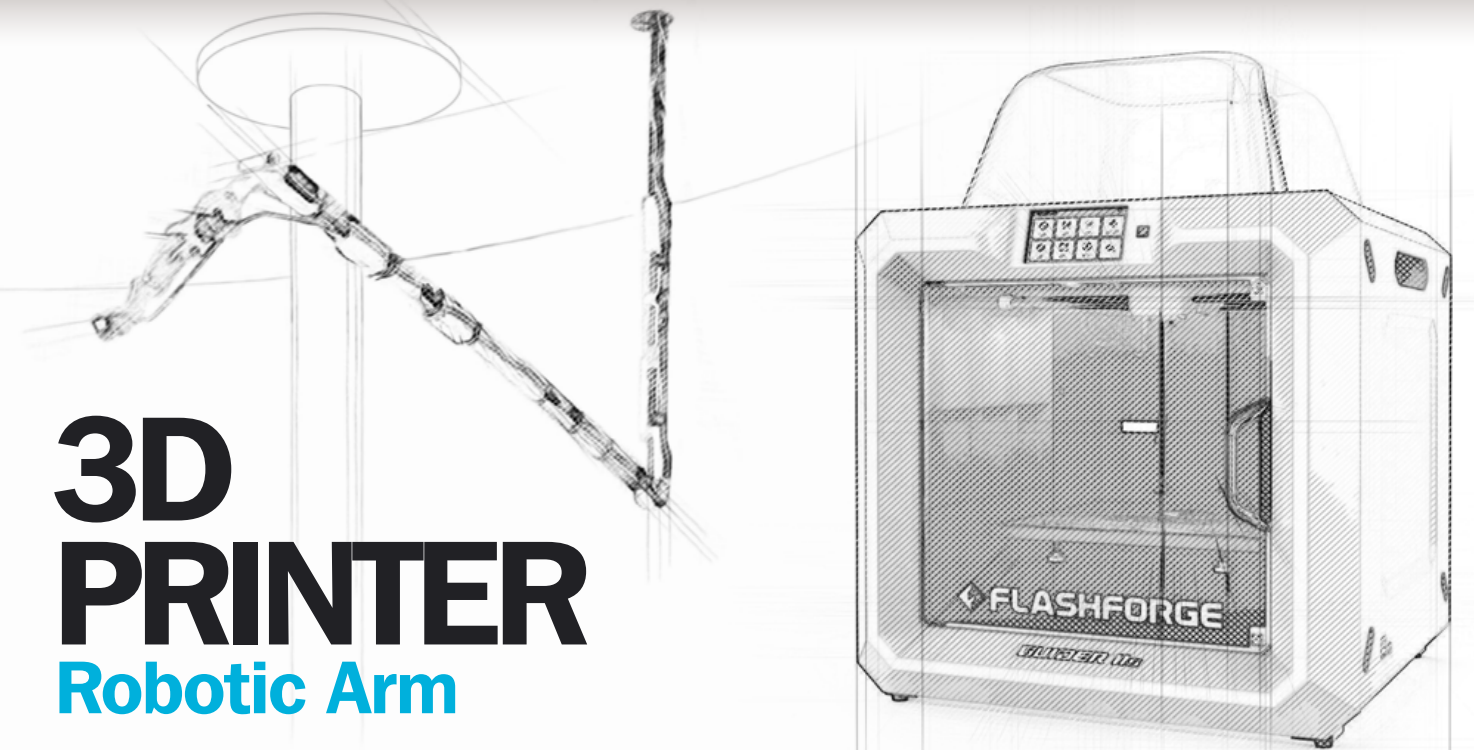
IVA
Intelligent Video Analytics
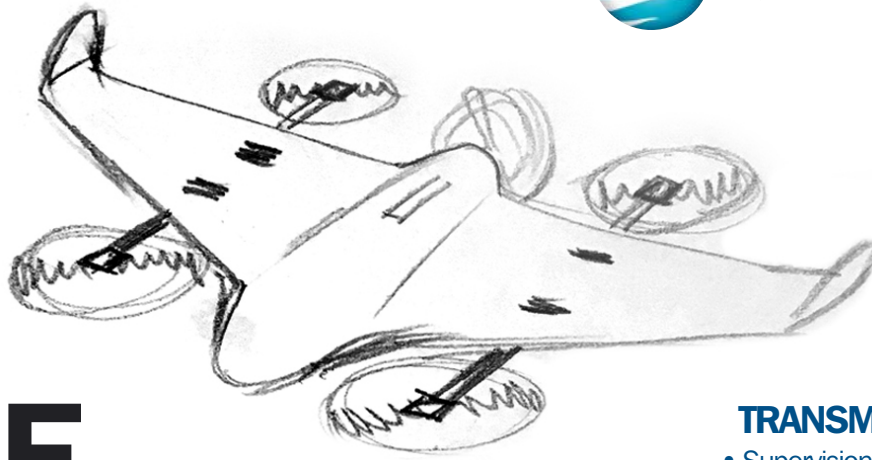
CUSTOMER PORTAL | RPA PROJECT
Process Automation

Autonomous drone
Capable of conducting scheduled inspection with 1-hour autonomy.
Artificial intelligence software detects the condition of components and infrastructure.
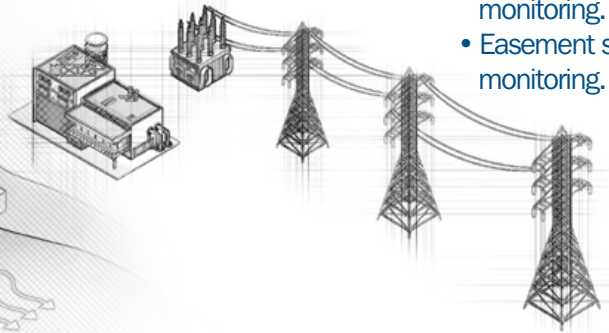Prepared to report findings.

DRONE
Beyond reality

900 km of transmission lines

TRANSMISSION LINES

- Supervision in transmission towers.
- Visual and thermographic condition monitoring.
- Easement strip monitoring.

GENERATION PLANTS

- Civil infrastructure monitoring on dams and channels.
- Channel condition monitoring.
- Penstock inspection.
- Perimeter fence inspection.
- Support to other business areas.

RISKS ELIMINATED
by operating a Drone

Transport

Fall into bodies of water
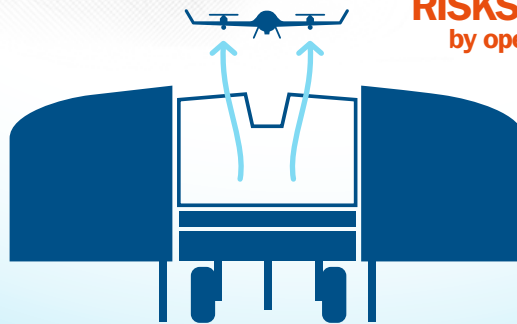
Drone box

Work at height

Energy control

Transport

BENEFITS IN MAN-HOURS

20% less **HOURS**

85% less **HOURS**

15% of man-hours engaged in Analytics

BENEFITS IN MAN-HOURS

WHICH IS THE IMPACT?

On the worker
Development of know-how on programming and analytics.

Drone pilot licensing.

On the society
Joint effort with the Pontificia Universidad Católica del Perú and the Innovate Program of the Peruvian Government. Cooperation with the Generation Civil Aeronautical Bureau and the Ministry of Transport and Communications (MTC) for the implementation of the Peruvian regulation.

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Robotic arm designed and manufactured in a **3D printer**, helps with visual inspections and complex measurements, reducing the associated risks and man-hours.

3D PRINTER
Robotic Arm

FLASHFORGE

RISKS ELIMINATED
by using the robotic arm

- Transport
- Energy Control
- Work at height
- Fall into bodies of water
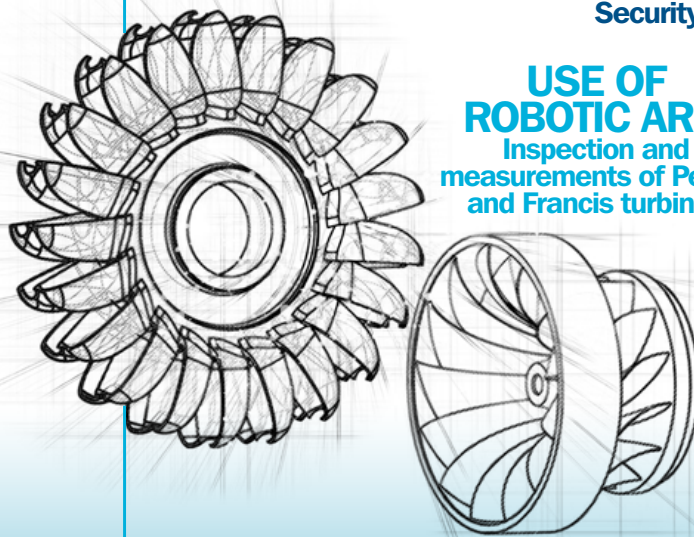- Confined space

Modeling

Security

Replacement

USE OF ROBOTIC ARM
Inspection and measurements of Pelton and Francis turbines

90%
Less resources

WHICH IS THE IMPACT?

On the worker
Implementation of new low-cost solutions and creativity development.

On the society
First place in the international contest held by ISEM 2019 (Mining Safety Institute).

Solution applicable to several industries.

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Platform implemented with the most recent technological advances in **artificial intelligence** (Deep Learning) that will be able to detect in real time any type of behavior, sub-standard condition or act to take immediate action.

- Safety
- Security
- Operations

Facial recognition

Suspicious behavior

Access control

IVA Intelligent Video Analytics

- Supervision of works with HRWP.
- Access control to hazardous facilities and spaces.
- Detection of vulnerable actions.
- Alert of suspicious individuals.
- Object recognition.
- Thermal imaging readings.
- Monitoring of levels, leakages, thermal imaging.

BENEFITS

Safety
80% Reduction of man-hours in supervision activities.

HSE

Security
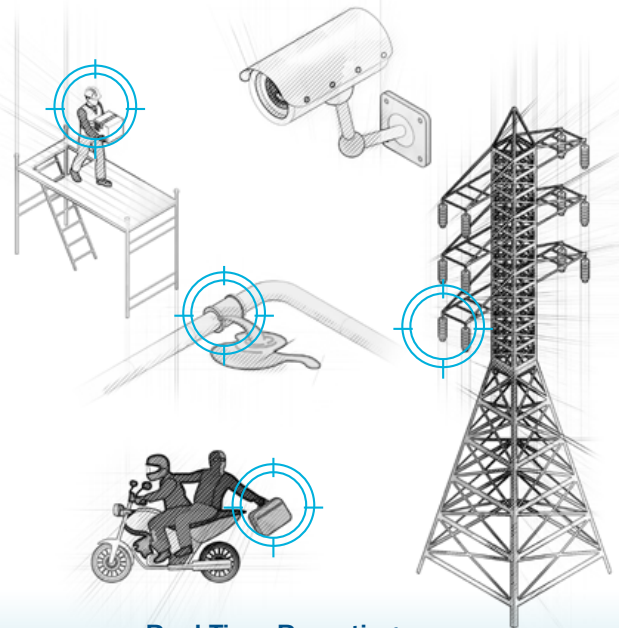**90%** Reduction of man-hours in CCTV surveillance.

Reduced vulnerability

Operations
Less investment on redundant signage and automation of operating monitoring

Operation support

Real-Time Reporting

WHICH IS THE IMPACT?

On the worker
Development of analytical know-how.

Priority given to safety and security risks with focus on medium-high potential for people.
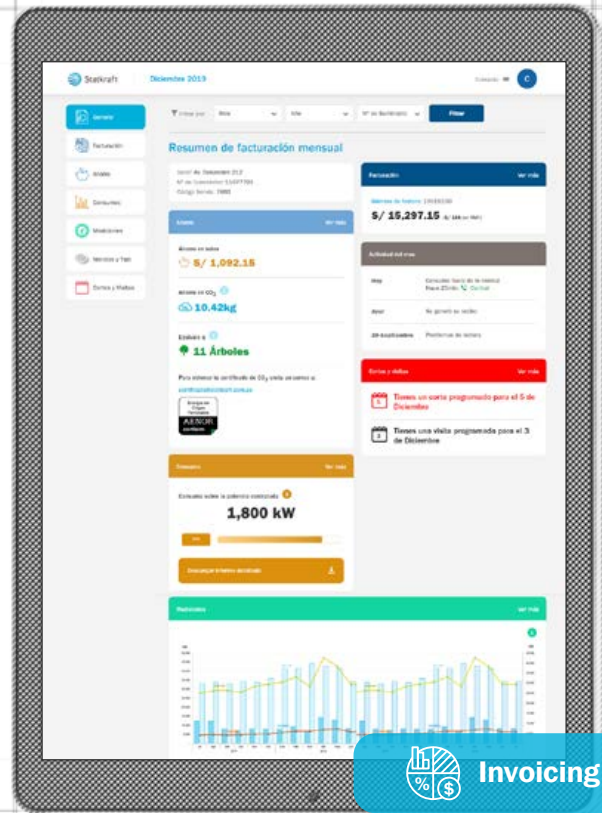
On the society
Promote the passing of data protection regulations in Peru.

Contribute to the preparation of dissertations and papers to promote artificial intelligence.

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These projects provide a value proposal for our customers giving us an advantage from our competitors, reinforcing the loyalty loop.

CUSTOMER PORTAL | RPA PROJECT
Process Automation

Invoice Approval

- Invoices from Distribution Companies
- Same format
- Short time to pay (1 week)
- Create approval template
- Validation using excel
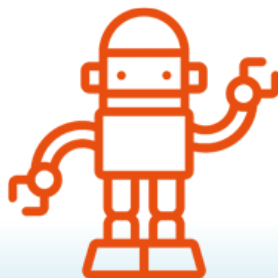
BEFORE

- 12 hours/month
- 0.2 FTE
- 101 invoices

NOW

- 0.6 hours/month
- 1 robot
- 101 invoices

Invoicing

Savings

Consumption

Metering

News and tips

Power cuts and visits

WHAT ARE THE BENEFITS?

For the business area
Automation initiatives support the execution of repetitive tasks with virtual workforce.
And reduces the process time of invoice approval, enabling business users for value added activities.

For the client
The Customer Portal will be a platform for our clients integration, so they can self-manage all their valuable information related to their energy service, for instance invoicing information request and schedule visits, maintenance and report technical problems. This tool will give them autonomy, agility and available information related to: news, energy sector, energy efficiency, certificates among others.