

Session 2: Solutions for Industry

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Sustainability for Business Forum 2023

Session: Solutions for Industry

powered by bluebee.

Thursday, 18 May 2023

The Landmark Bangkok Hotel

Moderator



Bruno Lhopiteau
Bluebee Technologies



Jagannathan Srinivasan
Signify Commercial Thailand



Dr. Poonperm Vardhanabindu
Bureau Veritas



Florian Blin
Artelia

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Control your industrial risks
with Smart O&M solutions!

We help Infrastructures & Industrial plants
to optimize assets lifecycle, control technical
risks and ensure regulatory compliance
by implementing Smart Operation &
Maintenance solutions
in line with the ISO 55000 standard

- 1986 Siveco Group founded in France
- 2004 Launch of Siveco China
- 2010 Bluebee Lab (R&D) in Shanghai
- 2011-2022 Expansion in Greater China, Asia and “from Asia”
- 2023 Opening Bluebee Tech Singapore & Bangkok

1,000+ client sites in Asia



- Ensuring regulatory compliance with Digital Twin for O&M in pharmaceutical wastewater treatment plant in Wuxi, China

Challenges and opportunities

Taking the opportunity of the construction of a new wastewater treatment to deploy best practices for environmental compliance.

- How to address the strict regulatory environment?
- How to optimize handover from construction?
- How to ensure O&M best practices?
- How to do more than just ESG reporting?
- Strong push to use innovative tech (“Digital Twin”)
- Strong corporate IT constraints



■ Implementation approach

The ISO 55000 Asset Management standard offers a good framework to align digitalization with strategic needs



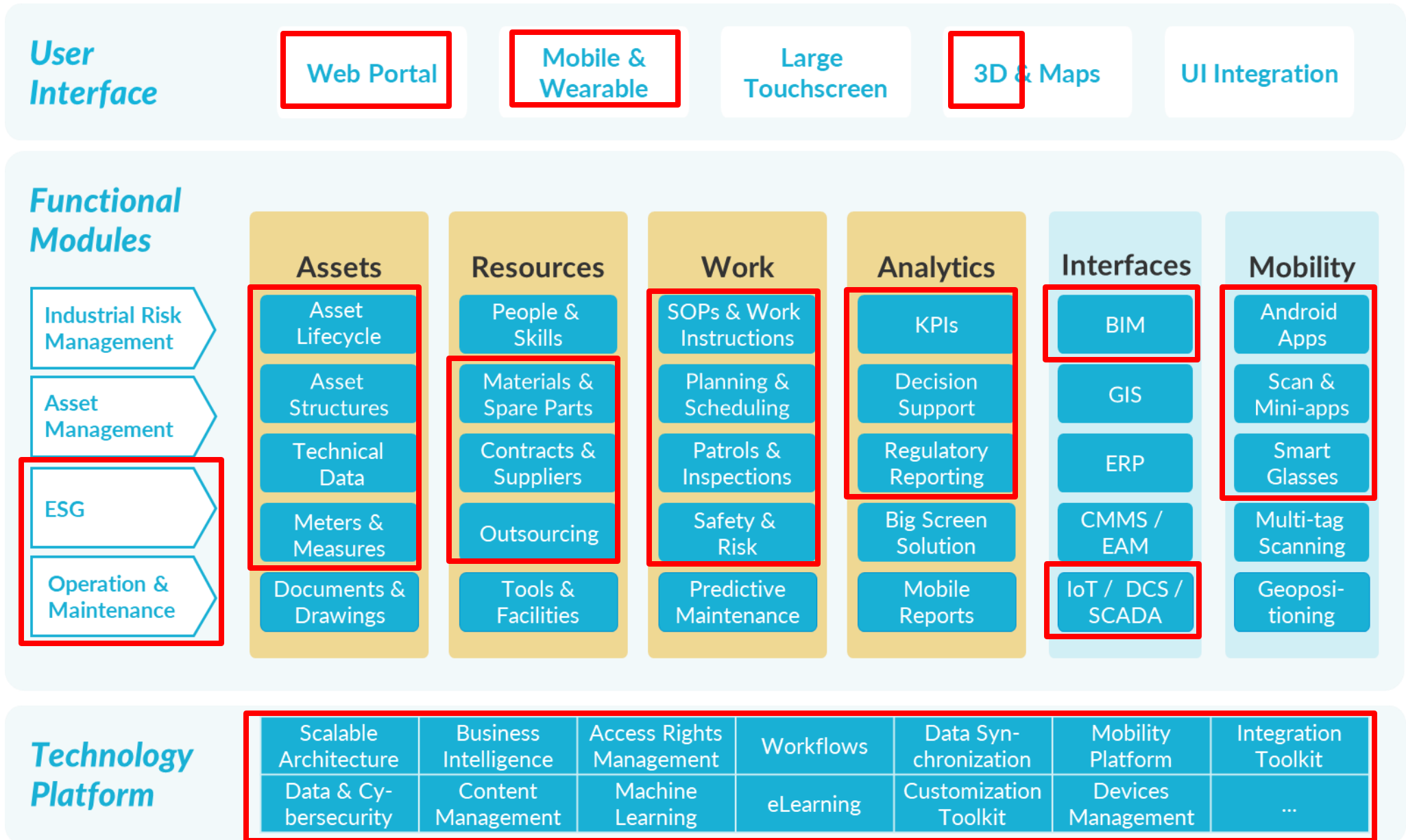
- Setting up the digital O&M system during the construction phase
- Initial duration around 6 months, yearly assessment after 6 months (April 2023)
- Enabling continuous improvement: monthly improvement coaching

Smart O&M system scope

AstraZeneca is using bluebee®

on cloud (zero IT involvement)

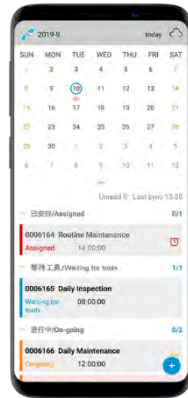
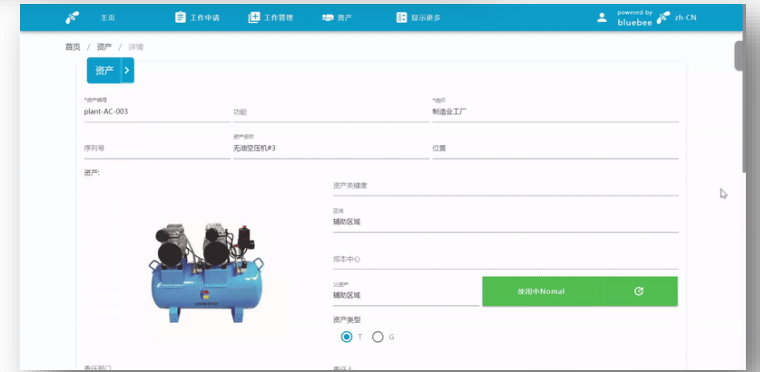
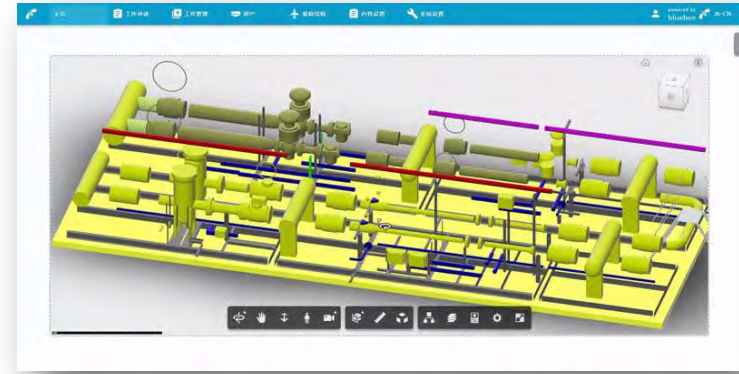
in SaaS mode (OpEx only)



■ All together: closing the ISO 55000 loop

Assist technicians in their onsite work, enforce best practice.

Bring valuable data from the field, ensure compliance.



■ Pictures from site



Annual visit (O&M assessment) conducted April 2023

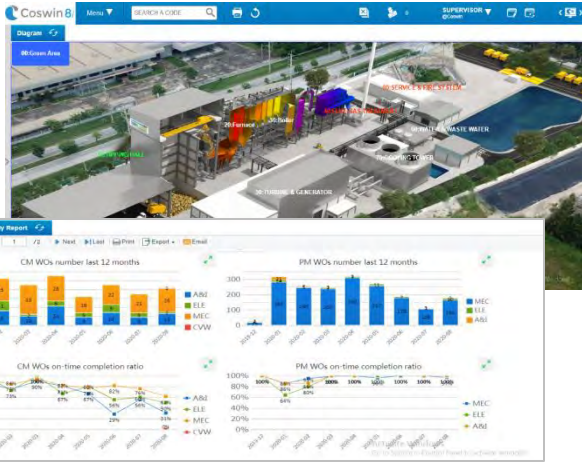
■ Results obtained

Enabling regulatory compliance

- Immediate savings from handover: all assets data, maintenance plans, established before start-up
- Lower O&M manpower cost (small onsite team)
- Continuous improvement: feedback loop between outsourced service team (PACT) and the owner (AZ) to assist the owner in making decisions and controlling costs and risks
- Planning and monitoring of all high-impact ESG actions (safety, energy, emissions)
- Compliance: “one-click audit” based on proven true data from connected objects (sensors) and people
- Last but not least: a demonstrator of Digital Twin in practice



Thailand clients



Chonburi Clean Energy (waste-to-energy)
Ensuring maintenance readiness

EssilorLuxottica



Essilor Optical Lab Chonburi (optical lenses)
Maintenance Management System (CMMS)



Veolia Circular Polymer (plastic recycling)
Implementing Asset Management system



Daramic Prachinburi (PE battery separators)
Continuous maintenance improvement program



Center One Shopping Plaza
Improving the maintenance of centralized utilities at 20,000sqm shopping mall

Scan to watch bluebee® in action at Center One



■ Keep in touch



WeChat



Line



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Managing Director

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Find our local team at the booth!



**BUREAU
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Tracking Sustainability Performance in the Food and Beverage Supply Chain

Poonperm Vardhanabindu, PhD.



A BUSINESS TO BUSINESS TO SOCIETY

COMPANY



- Our employees serve our clients and are inspired by society; they make Bureau Veritas a *Business to Business to Society* service company that contributes to **positively transforming the world we live in.**
- Thanks to our unrivalled expertise, technical knowledge and worldwide presence, we support our clients by managing **quality, safety, health and sustainability risks**, to the benefit of society as a whole.

OUR MISSION

Shaping a World of Trust by ensuring **responsible progress.**



EXTERNAL POSITIONING

AT BV, WE SUPPORT OUR CLIENTS IN COMPLYING WITH REGULATIONS, MANAGING RISKS AND IMPROVING PERFORMANCE...

RESOURCES & PRODUCTION

RENEWABLES & ALTERNATIVE ENERGIES

ENERGY TRANSITION

Onshore and offshore Wind Farms, Solar Power Plants from Project to Asset Management, Biofuel and Hydrogen certifications

SUSTAINABLE USE OF NATURAL RESOURCES

Agribusiness harvest monitoring and Precision Farming, Responsible Fishing, Forest Certification and Maritime Pollution Prevention

INDUSTRY CARBON FOOTPRINT

Carbon footprint monitoring, Energy saving verification, industrial environmental control and testing and emissions control

CONSUMPTION & TRACEABILITY

SUSTAINABLE SUPPLY CHAINS, FOOD CERTIFICATION

Product component testing, organic certification, supply chain resilience audit, circular economy verifications and ESG supply chain audits

BUILDINGS & INFRASTRUCTURE

CONSTRUCTION & REFURBISHMENT

Green building certification, project management for infrastructure improvement in developing countries and infrastructure life-cycle asset management in mature countries

NEW MOBILITY

E-MOBILITY, ALTERNATIVE PROPULSION

Batteries, charging station, connectivity testing, LNG ship inspection (new build, conversion)

SOCIAL, ETHICS & GOVERNANCE

SOCIAL PRACTICES

Social audits, health, safety, hygiene and inclusion protocols

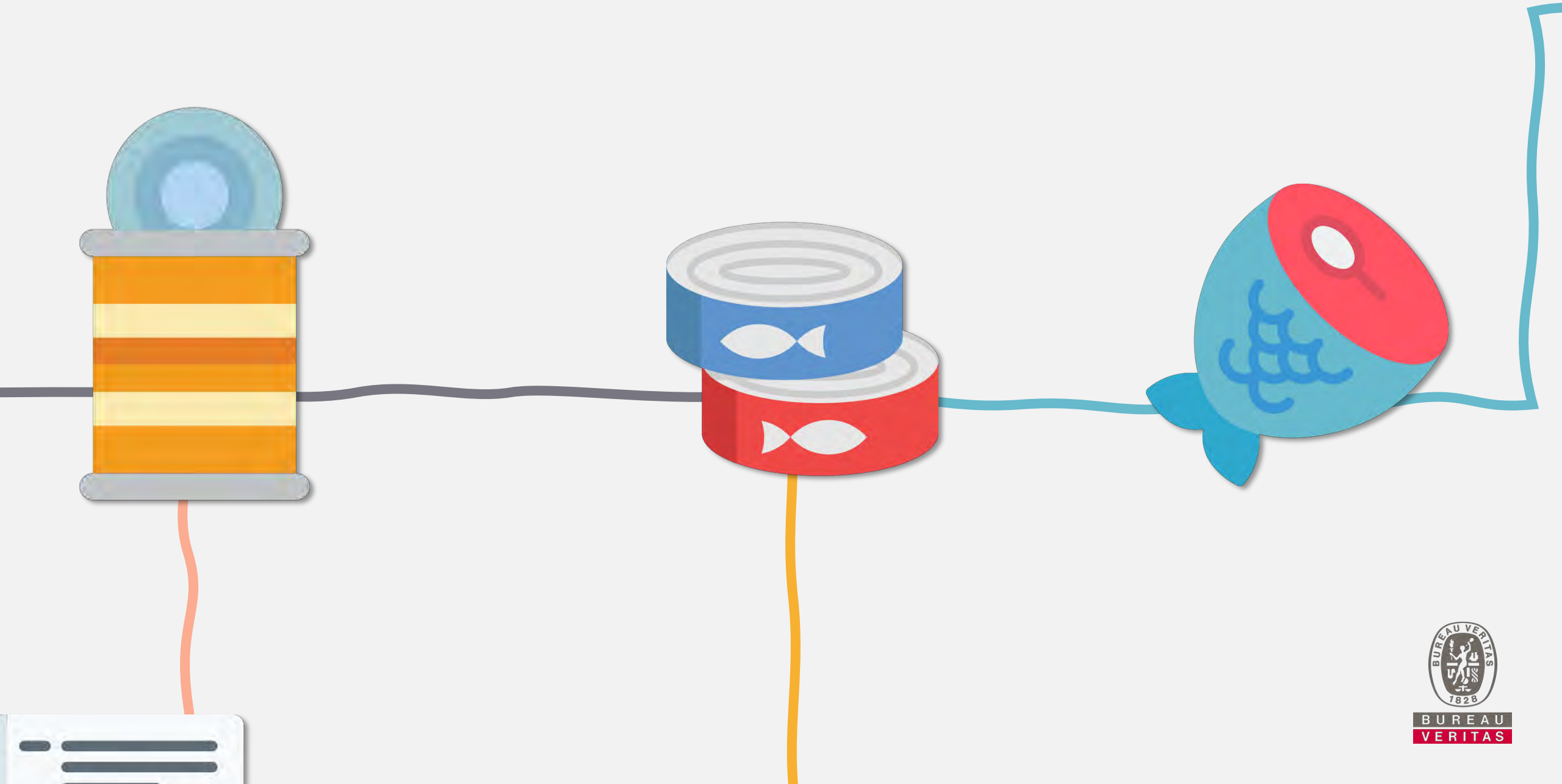
CSR STRATEGY

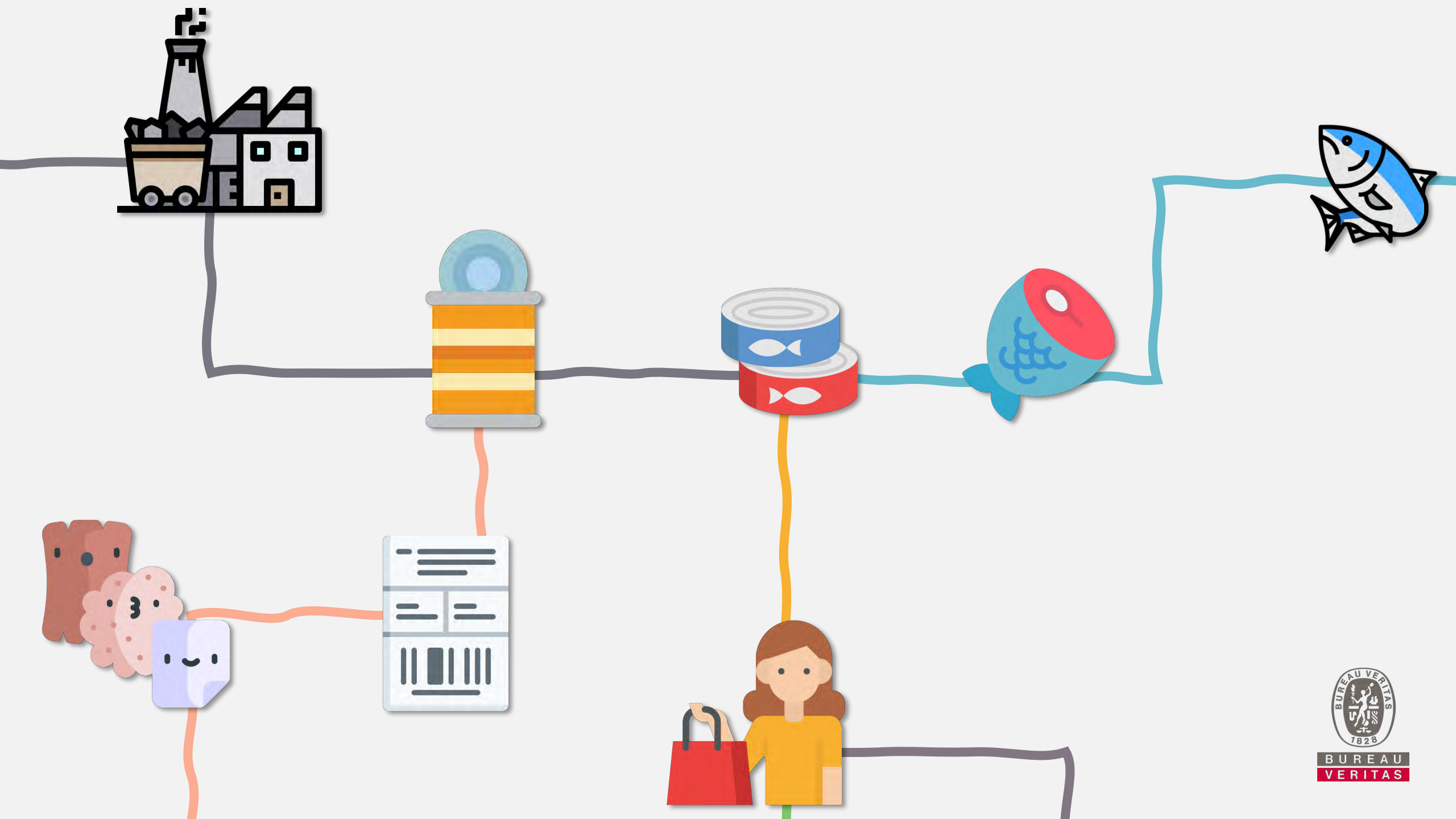
Policy monitoring, Management systems improvement, Reporting verification

ETHICS & BUSINESS PRACTICES

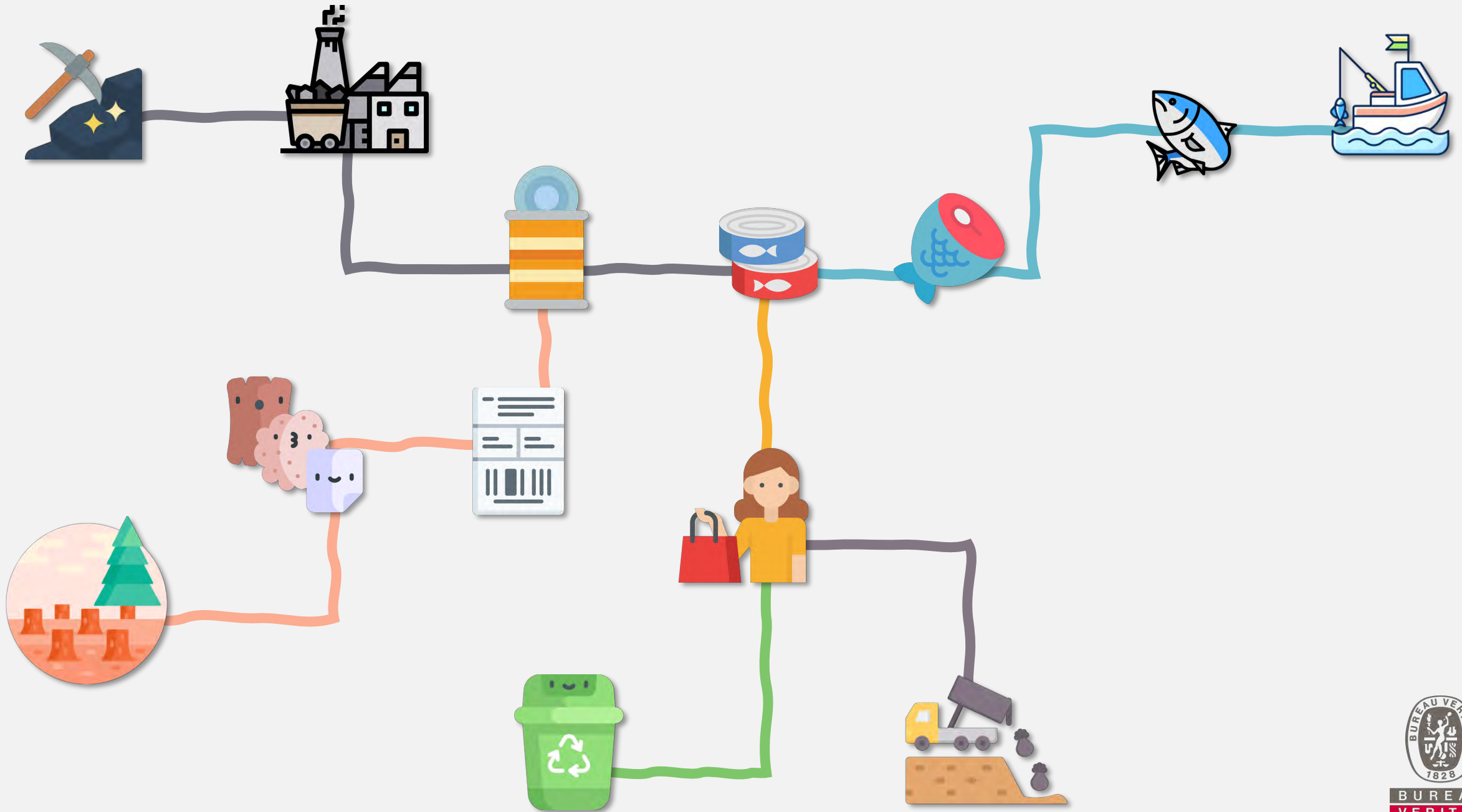
Human rights assessment, supplier assessment, anti-bribery certification, Data Privacy and Cybersecurity certifications

... ALL ALONG A
**GREEN LINE OF SERVICES
& SOLUTIONS**





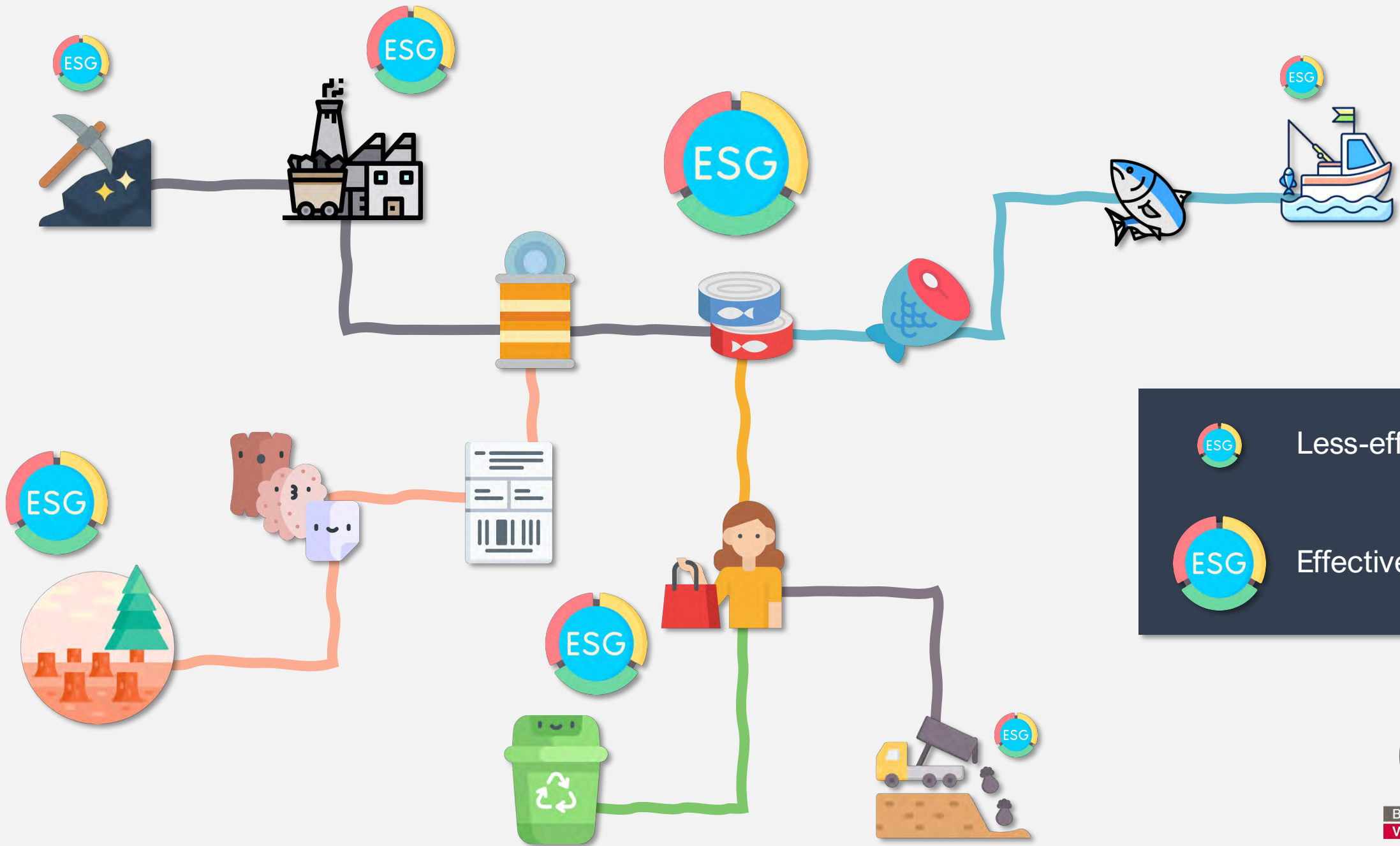
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	Less-effective
	Effective



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Tier 3

Suppliers
of Suppliers



CHALLENGES

Tier 2

Suppliers



Tier 1

Reporting Organisation
(Self)





EFFECTIVENESS

Policies could be
IMPLEMENTED
effectively

Implementations
could be
TRACKED
effectively



Understand where you are in the journey
(Benchmarking, gap analysis, carbon footprint assessment,
environmental reviews)

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(Benchmarking, gap analysis, carbon footprint assessment,
environmental reviews)



Communicate

Assess

Evaluate performance in line
with sustainability KPIs
(Carbon footprinting, verification,
auditing, risk assessment)

Measure

Sustainability

Define

Establish where you want to go
and set goals
(Materiality assessment, stakeholder
engagement, support in setting
objectives, targets and KPIs)

Implement

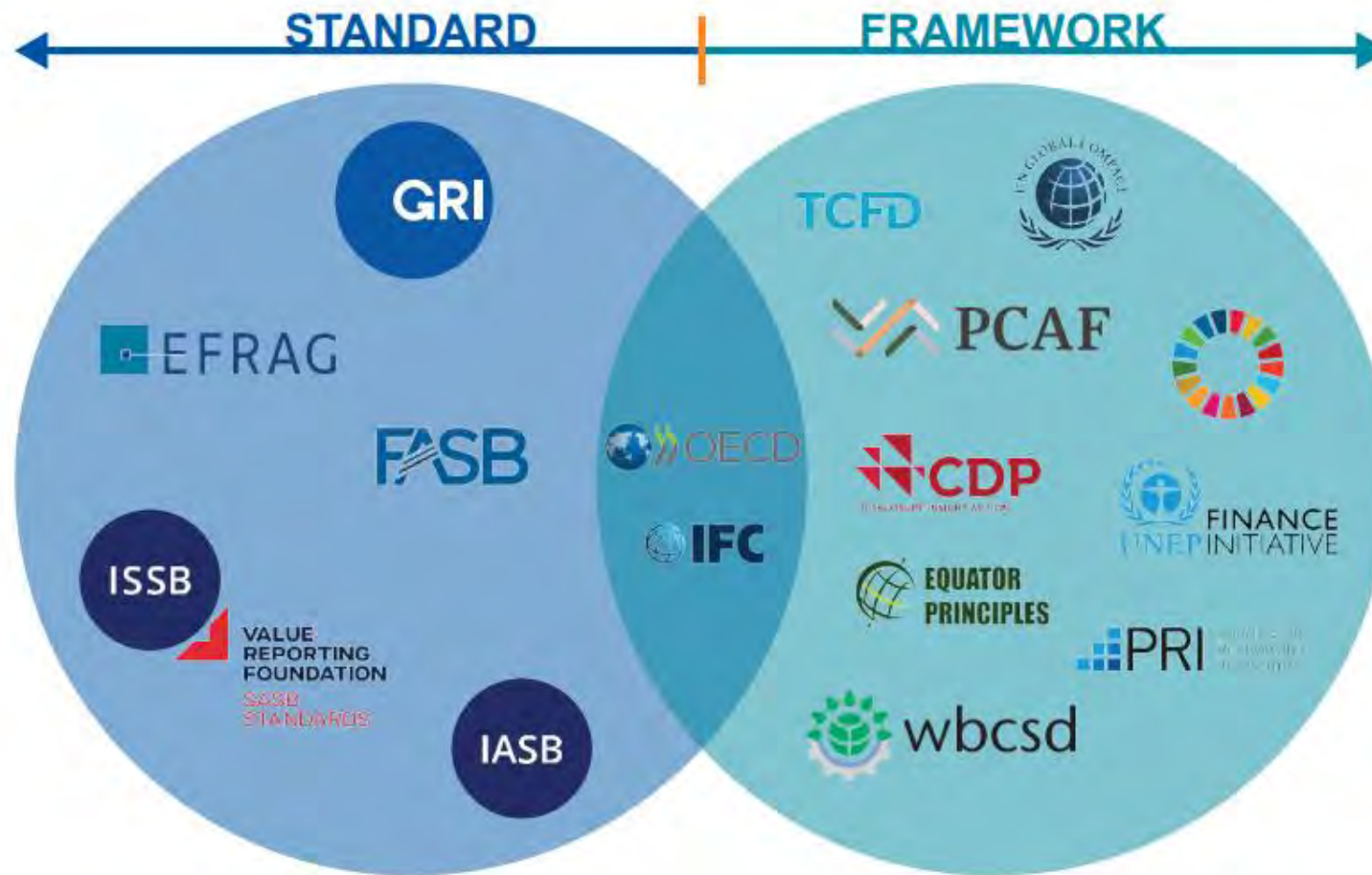
Plan

Putting the plan into action
(Sustainability, carbon and environmental services,
capacity building, stakeholder engagement)

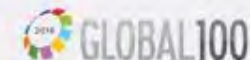
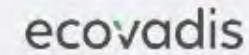
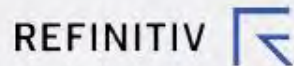
Work out how you will get there
(Strategy development, System development and
Environmental Management Systems)

The 8 Ds

1. **Define** - Develop a checklist of sustainability goals.
2. **Discover** - Identify gaps in your current sustainability practices.
3. **Design** - Plan improvements based on discovered gaps.
4. **Deploy** - Implement your new sustainability strategies.
5. **Document** - Keep track of your progress and changes.
6. **Disclose** - Communicate your efforts and achievements transparently.
7. **Dedicate** - Commit to continual refinement and enhancement of sustainability practices.
8. **Determine** - Re-assess and adjust goals for future sustainability efforts.



RANKERS & RATERS





**BUREAU
VERITAS**

Thank You

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Sustainability Product Development Manager
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Sustainability highlights in 2021-2023

Carbon neutral in all our operations

99% of risk suppliers passed audit

83% Sustainable revenues and more than 2.5 billion LED's delivered



A list for climate and supply chain



Dow Jones Sustainability Indexes

DJSI Industry Leader 6 consecutive years



EcoVadis Platinum Medal and top 1%

Zero waste to landfill in 2021

100% renewable electricity to power our operations

Auto Alliance at Rayong

488 luminaires [LED Highbay + IoT lighting]

Energy Saving

>80%

Annual carbon footprint reduction

>740





tCO₂

[Site 55,000 m²]

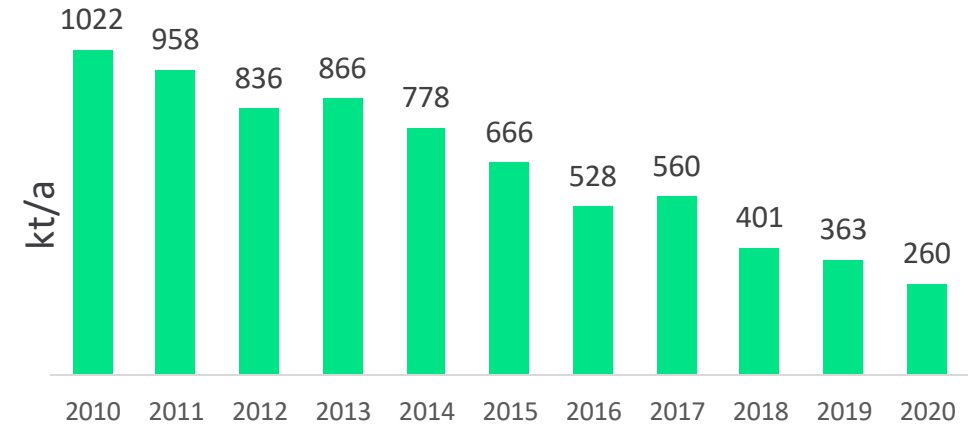


We are carbon neutral

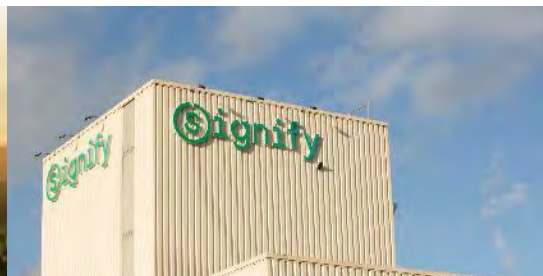
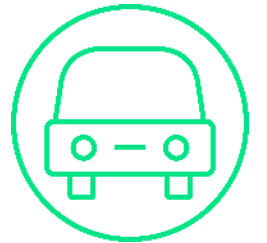
We reduced the emissions of our operational footprint:

-  **Manufacturing: 46% less** emissions through LED, optimized HVAC, process optimization
-  **Offices: 92% less** emissions through increased office space utilization and automated building processes
-  **Logistics: 52% less** emissions through more sea freight and increased efficiency
-  **Business travel: 80% less** emissions through more sustainable travel
 - We shifted to 100% renewable electricity:
 - Virtual power purchase agreements in US and Poland
 - Solar energy in Gulf region
 - Offsetting projects with clear societal and environmental benefits, such as own off-grid solar energy in rural India

Carbon footprint



Taking
500,000 cars
off the road for one year





Climate crisis



Energy crisis



Economic crisis

Electricity bill consumption to light manufacturing facilities

5-10%



Savings by moving to IoT lighting

>92%



Payback back time for lighting renovation

2,7 years



Annual carbon savings for every 100,000 m²

627 tCO₂



Be smart, save more

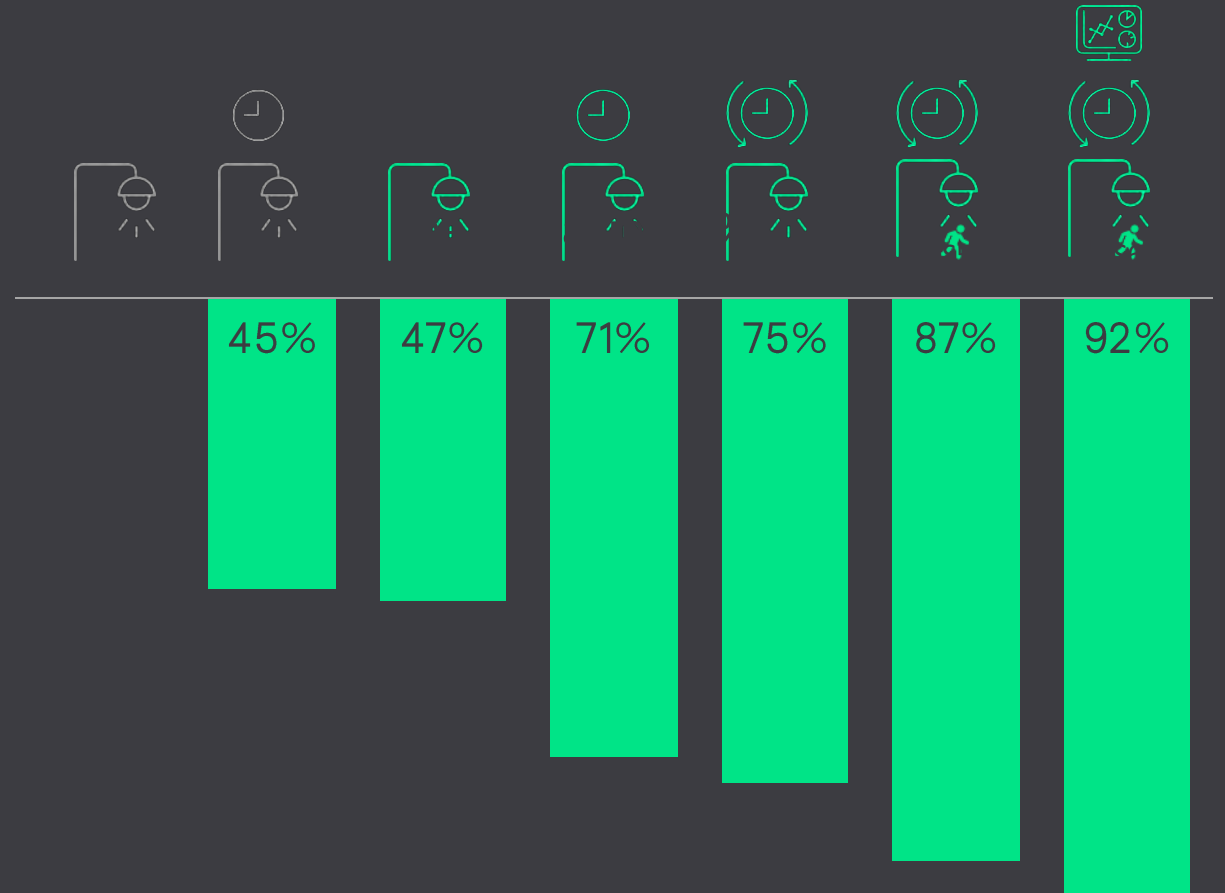
A manufacturing site can annually save:


5 mTHB just by switching to LED

7 mTHB by LED dimming with controls


9 mTHB by LED with presence detection

10 mTHB by LED with presence detection & tele management.





 Conventional lighting

 Dimming lighting

 LED lighting

 Presence detection

 Switch-off lights for a few hours during nighttime

 Tele-management

■ Energy Savings (%)

Data presented here is a simulation within the framework of the Green Switch conventional light point conversion model, which is a program run by Signify to help customers accelerate the switch to energy-efficient lighting products, systems and services. All figures and data presented here are illustrative and based on forecasts and assumptions. The diagram represents a City of 100,000 inhabitants with 6,100 remaining conventional light in public lighting applications. Data presented here is based assuming scenarios with most common switch-off and dimming profiles, presence detection settings and tele management functionalities. Price of Electricity of Municipalities=0.335 €/kWh.



Switching to IoT lighting is an energy-saving opportunity you can't afford to miss

10 mTHB

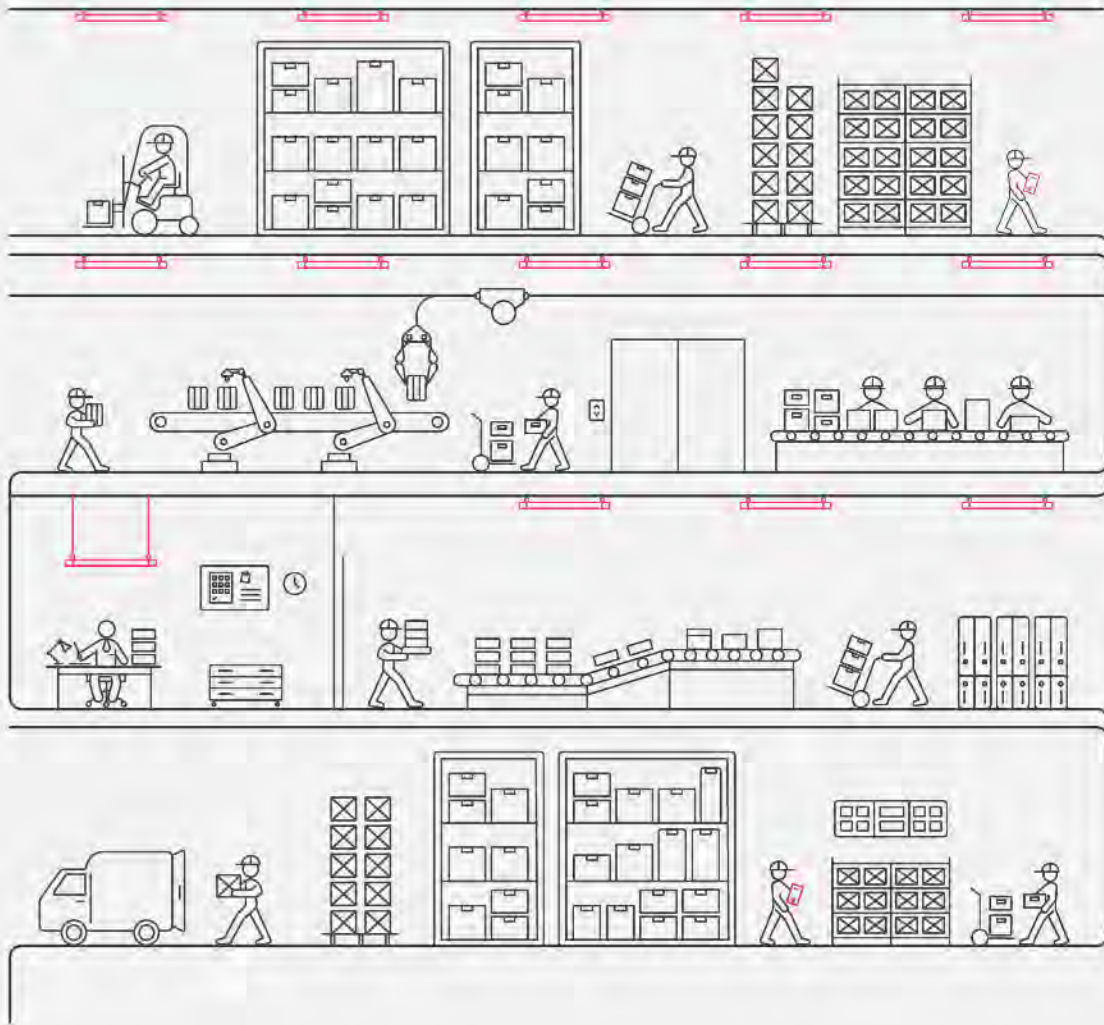
Potential **annual saving** by an average manufacturing company per site [50,000 m²]



Further benefits of IoT lighting

Interact Industry [IoT lighting]

creating a smart warehouse or manufacturing facility



Lighting management



Lighting asset management



Scene management



Energy optimization



Space management



Indoor navigation*



Storage

Office space

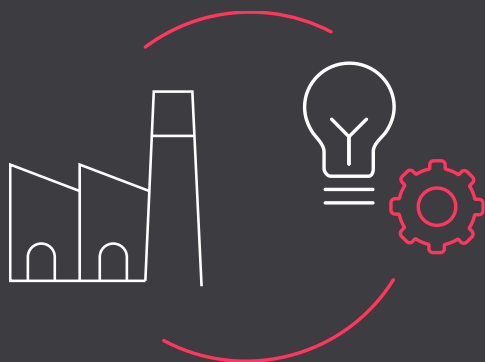
Processing

Packaging & shipment

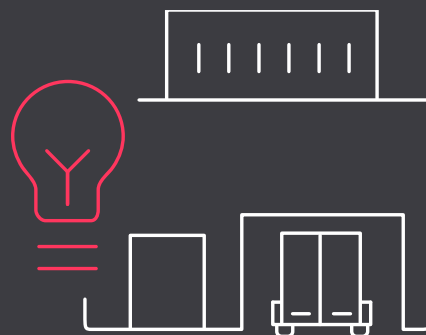
Parts production & assembly

Outdoor areas

Start to refurbish without stopping work, Suitable for any sites and future.



1. Start with a small upgrade, even a single area of your facility



2. Scale up to the full facility



3. Expand to all your sites

Optimize energy use

with the support of advanced lighting controls

- Different activities, different lighting
- Schedule your lighting

Ensure lighting uptime and employee safety

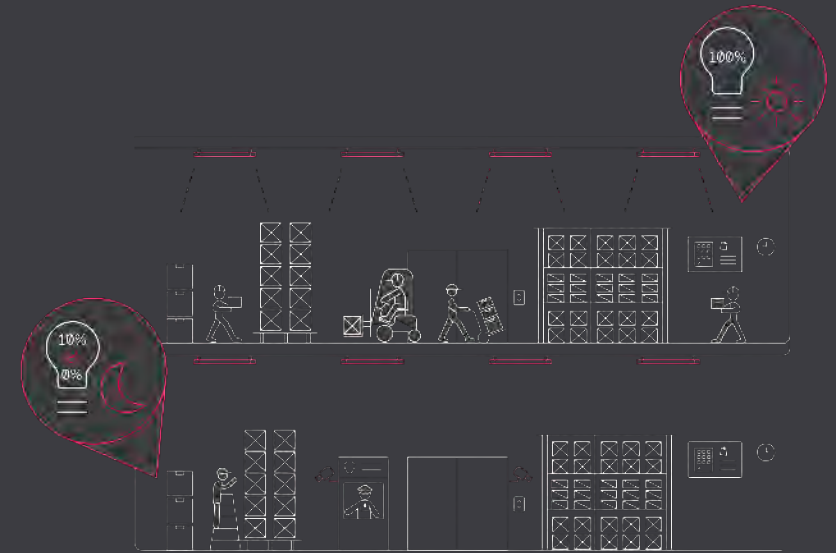
by enabling preventive maintenance

- Defects, downtime and incidents
- Plan maintenance effectively

Maximize productivity

through an in-depth understanding of space usage

- Enable people to work smarter
- Create efficient work practices





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Make the switch.

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