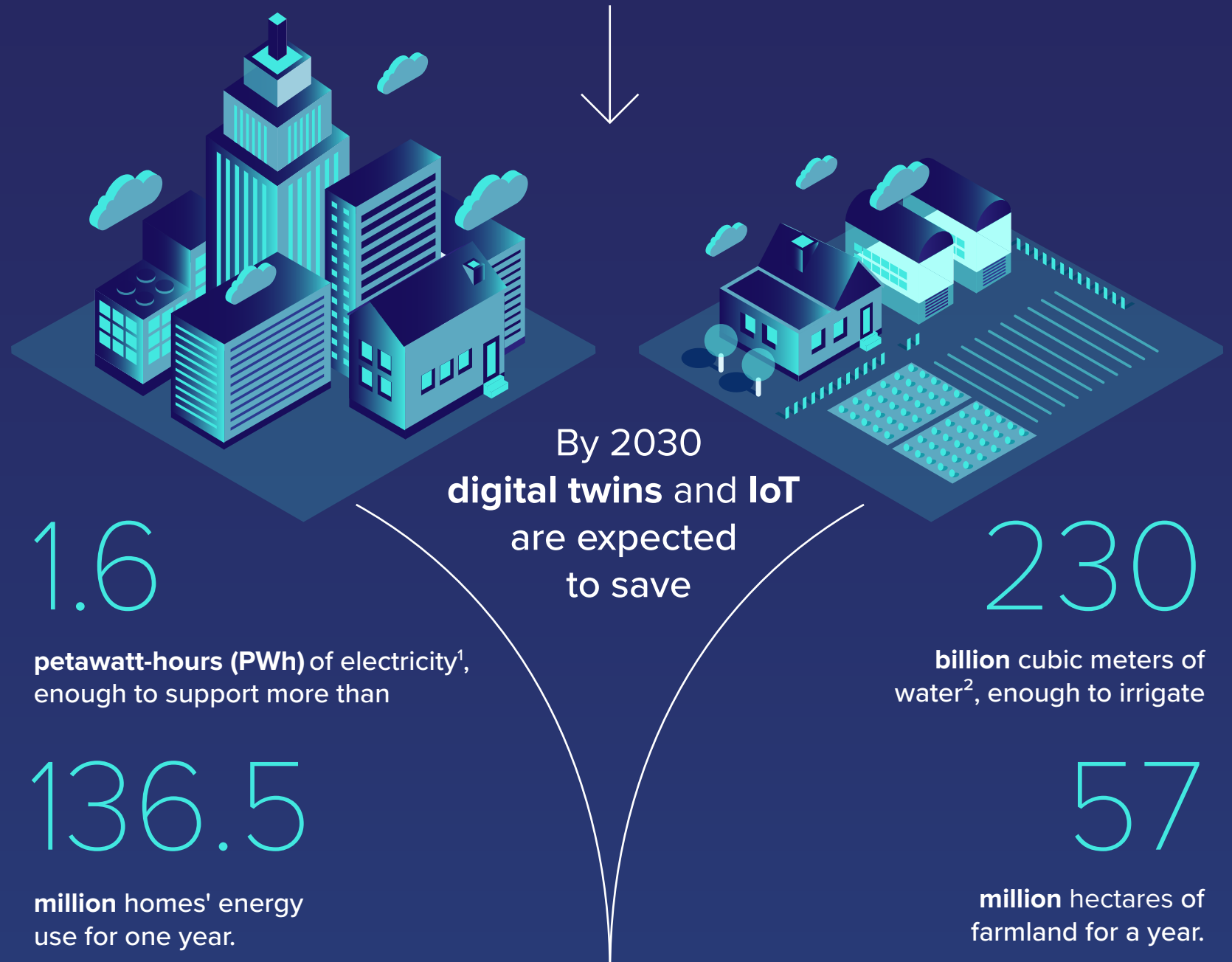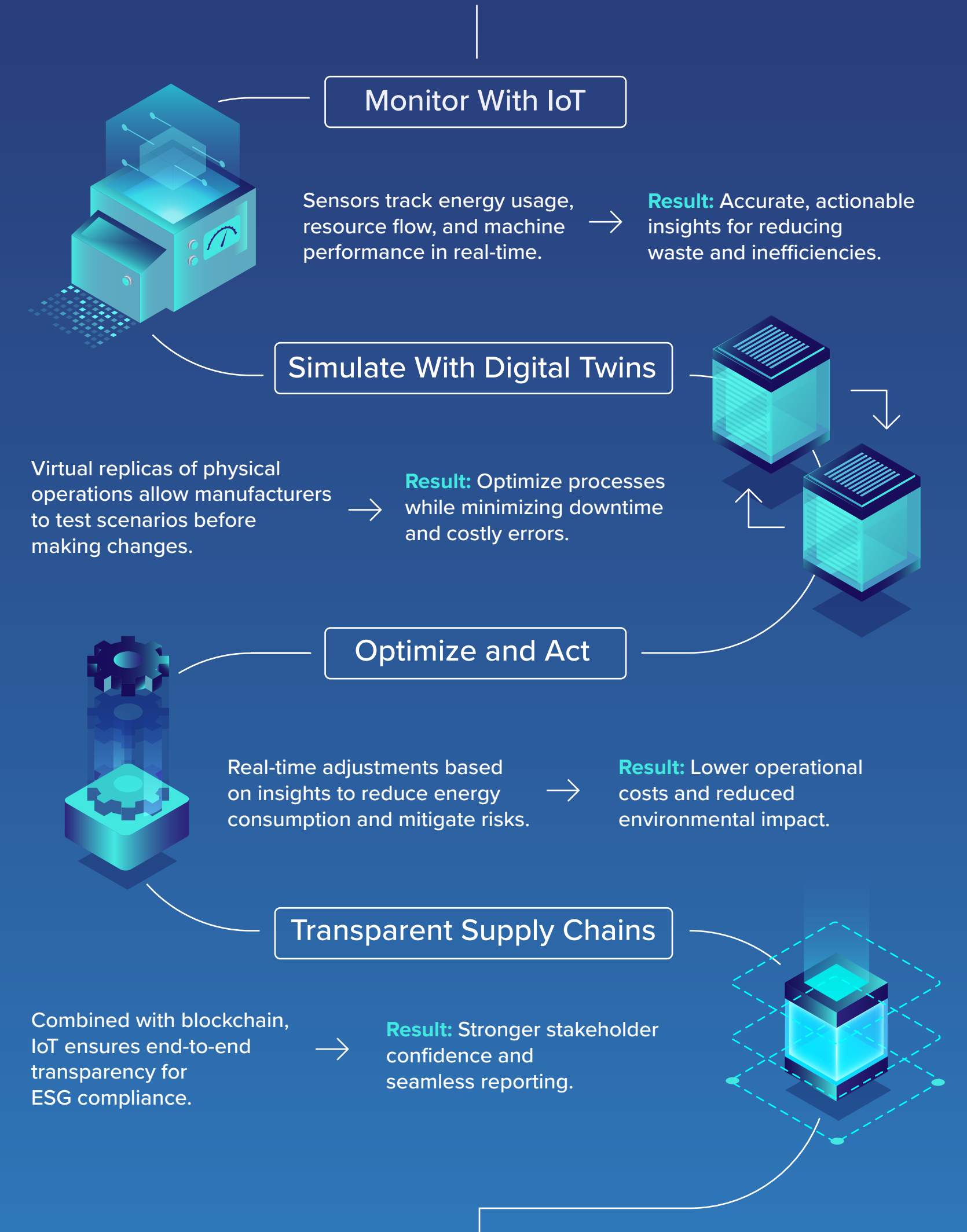![Sutherland logo]

From Data to Green

How **IoT and Digital Twins** Are Transforming Manufacturing for a Sustainable Future

Leverage smart technologies to reduce costs, optimize resources, and minimize your environmental impact.

Digital Technology with a Green Impact

By 2030 **digital twins** and **IoT** are expected to save

1.6
petawatt-hours (PWh) of electricity[1], enough to support more than

136.5
million homes' energy use for one year.

230
billion cubic meters of water[2], enough to irrigate

57
million hectares of farmland for a year.

How IoT and Digital Twins Enable Sustainability

Monitor With IoT

Sensors track energy usage, resource flow, and machine performance in real-time.

Result: Accurate, actionable insights for reducing waste and inefficiencies.

Simulate With Digital Twins

Virtual replicas of physical operations allow manufacturers to test scenarios before making changes.

Result: Optimize processes while minimizing downtime and costly errors.

Optimize and Act

Real-time adjustments based on insights to reduce energy consumption and mitigate risks.

Result: Lower operational costs and reduced environmental impact.

Transparent Supply Chains

Combined with blockchain, IoT ensures end-to-end transparency for ESG compliance.

Result: Stronger stakeholder confidence and seamless reporting.

Environmental Benefits for Manufacturers

Prevention of Environmental Risks
Detect and resolve faults before they lead to spills or emissions.

Compliance and Reputation
Transparent ESG reporting builds investor and customer trust.

50% ↘ reduction in **greenhouse gas** emissions and **carbon footprint** of buildings.[3]

30% ↘ reduction in **energy costs** of smart buildings.[4]

44% ↗ **water consumption** optimization.[5]
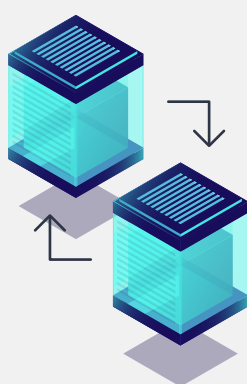
Investing in **IoT** and **Digital Twins** can reduce operational costs, improve ESG compliance, and position your business as a sustainability leader.

[1] IoT Technology Will Save More Than Eight Times the Energy it Consumes by 2030 and Drive Strong Reduction in CO2 Emissions and Water Usage
[2] IoT Technology Will Save More Than Eight Times the Energy it Consumes by 2030 and Drive Strong Reduction in CO2 Emissions and Water Usage
[3] A Review of Digital Twin Technologies for Enhanced Sustainability in the Construction Industry
[4] A Promising Solution to Energy Management in Smart Buildings
[5] The Global Lighthouse Network Playbook for Responsible Industry Transformation

Talk to our experts and make sure your business is ready for a green future.

[Get In Touch]

SUTHERLAND digital outcomes.