Sustainability Presentation

Chief Sustainability Officer

Mattie Yeta – Nov 2022

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Chief Sustainability Officer UK and Australia

Mattie Yeta is the Chief Sustainability Officer for CGI UK and former Head of Sustainability for Defra IT/UK Government, and a PhD researcher specialising in corporate sustainability, green economics and national recovery. Mattie has expertise in sustainable development at both the strategic and delivery levels across the public and private sectors and has led substantive change in the sustainable development arena. Mattie led the creation of the Cabinet Office One Government Cloud Strategy Sustainability Workstream, the UK Government's sustainable technology report and the Sustainability industry guide to help businesses achieve sustainable outcomes.

Mattie received the Industry Sustainability Leader of the Year award, the Digital Leader Impact award, the Civil Service award as "highly commended", Defra's corporate services award for "Leading Through Change," and was a nominee for the Most Influential Women in UK Tech. Mattie has received the royal honour for her contribution to sustainability in the UK and globally and was recently announced in the top 100 sustainability power leaders.

Mattie is a tutor for the University of Oxford Climate Change Programme. She chaired the e-Sustainability Alliance, a network of 300 private sector organisations working with the United Nations and other stakeholders and has extensive work experience of working with the United Nations (UNFCCC, UNEP, UNGC, UNICEF, UNDP).

Key Facts

- Technology can reduce 14% of the worlds global emissions

- It is estimated that data centres contribute 1% to 3% of the worlds global emissions

- A computer contains about 0.2 grams of gold ($12) or 0.0006 grams of gold in a laptop ($6)

- 50 million tonnes of electronic waste are thrown away each year

- It is estimated that 14 percent of the global emissions will come from technology

- Fulltime employment in ICT sits at 62 million personnel (some statistics show that about 19% of those are women)

CGI at a glance

Founded in 1976
46 years of excellence

CA$12.1 billion revenue

Net-zero by 2030 global and 2026 UK Operations (SBTIs)

400 locations in over 40 Countires

6000 experts in the UK
84000 experts globally

Canada

United States

Mexico

Colombia

Sweden   Norway
Denmark   Finland
Netherlands   Estonia
Belgium   Latvia
United Kingdom   Lithuania
Luxembourg   Poland
France   Slovakia
                       Romania
Portugal   Spain   Hungary
                       Czech Republic
Morocco   Germany
            Italy

India   Hong Kong

                       Philippines

Malaysia

Australia

CGI Global Road to Net Zero

CGI Global has committed to achieving net zero emissions by 2030 with respect to carbon emissions under its direct and indirect control

The 2030 target date is **20 years earlier** than the target date set by the United Nation's Paris Agreement on Climate Change.

Certain geographies within CGI **will reach the Net Zero target prior to 2030** – including CGI in the UK.

CGI UK Net Zero Programme Targets & Goals

To achieve **our 1.5°C Emission Reduction Science Based Targets**. By reducing our absolute GHG emissions by 46% for our own operations (scope 1 & 2) & by 46% for business travel (scope 3) by FY26 from an FY19 base year.

To **neutralise our remaining residual emissions** through investing in **verified, carbon removal projects**.

To achieve our **Scope 3 Engagement target** by the end of FY26 – to ensure 50% of our suppliers by spend, covering purchased goods and services & capital goods, will have set science-based targets by the end of FY26.

To align with the latest climate science and put in place operational practices, policies, partnerships and actions that **protect our environment**.

Shared private or public distributed database of transactions

- High-performance computing capabilities.
- Predictive modelling using data to make predictions.
- Unsupervised machine learning using raw data and spotting patterns within it.
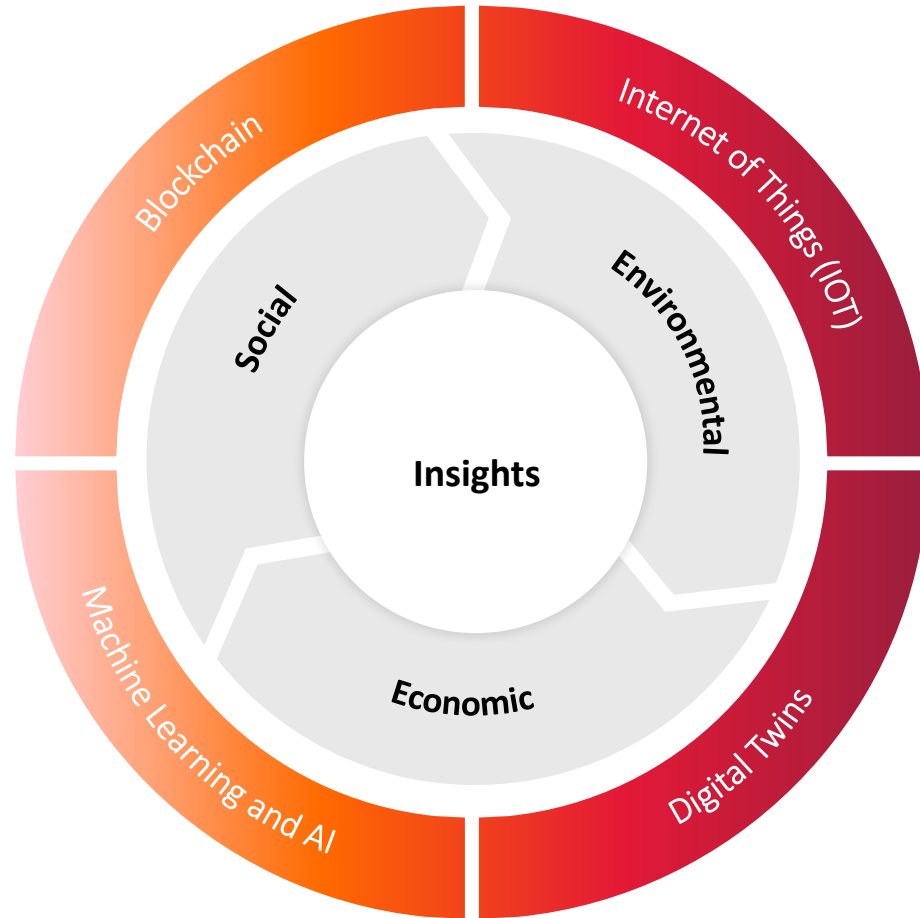
Describes the network of physical objects and technologies exchanging data with other devices and systems over the internet
- Sensors
- Cloud
- Big Data
- Analytics

Realistic digital representation of assets, processes or systems in the built or natural environment
- Sensors
- Cloud

Insights

Social

Environmental

Economic

Blockchain

Internet of Things (IOT)

Digital Twins

Machine Learning and AI

Innovations and Technologies

Efficiency

Efficiency of energy use, including heat pumps, district energy systems, and passive design. including measurement tools to provide insight into energy use, and software to optimize energy use.


Adaptation and resilience technologies

Moving away from fossil fuel equipment. Replacing and adjusting inefficient conditioners.
Hydrogen heating technologies are being demonstrated in the UK through our clients.

Renewable Energy

One of the most promising renewable energy technologies is solar. Others include include wind, hydropower etc.

CGI's Sustainability Technology Radar
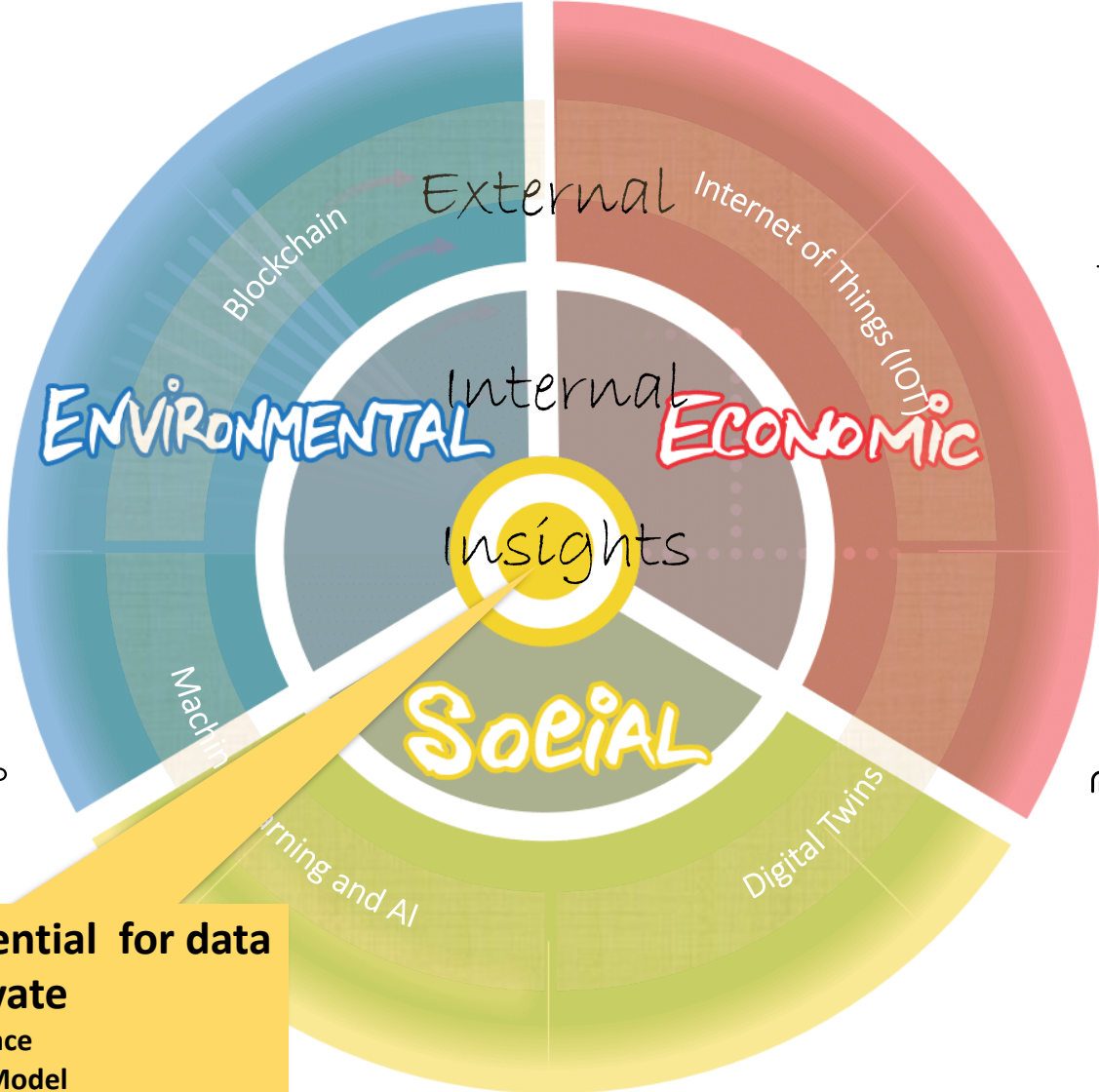
- To develop more efficient maintenance plans

- Traceability of materials
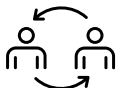- Compliance levels
- Fraud prevention

Industrial IoT (IIoT) refers to the application of IoT technology in industrial settings

- Connected assets, preventive and predictive maintenance
- Smart power grids
- Smart cities
- Connected logistics
- Smart digital supply chains

- Plan for the future by using simulations
- Building resilience

Unlocking the potential for data to innovate
Intelligence
Operating Model
Trust
Resilience, cyber security

CGI

CGI case study on the role of technology

SEEDS

Sustainability

Exploration

Environmental

Data Science

CGI

SEEDS

Sustainability Exploration Environmental Data Sciences

SEEDS is an innovative research programme to challenge the thinking and practice around sustainability

Vision

Accelerating the transition to a sustainable future through technology, research, and innovation.

Mission statement

To harness the power of technology, research, and innovation to create positive environmental and social change, and foster access to technological sustainability solutions.

Our SEEDS Members… so far

Tara McGeehan

CGI UKA President &
SEEDS Co-chair

Mattie Yeta

CGI CSO & Co-chair

**Miguel Alejandro
Naranjo Gonzalez**

UNFCCC

Dr Russell Lock

Loughborough
University

**Professor Sebastian
Farnaud**

Coventry University

Dr Aleksander Radu

Lincoln University

**Professor Ashiq
Anjum**

University of Leicester

Donna Lyndsay

Strategic Market Lead,
Ordnance Survey

Petronella Chaminuka

Head of Economic
Analysis, ARC

Naomi Weir

Director of Innovation,
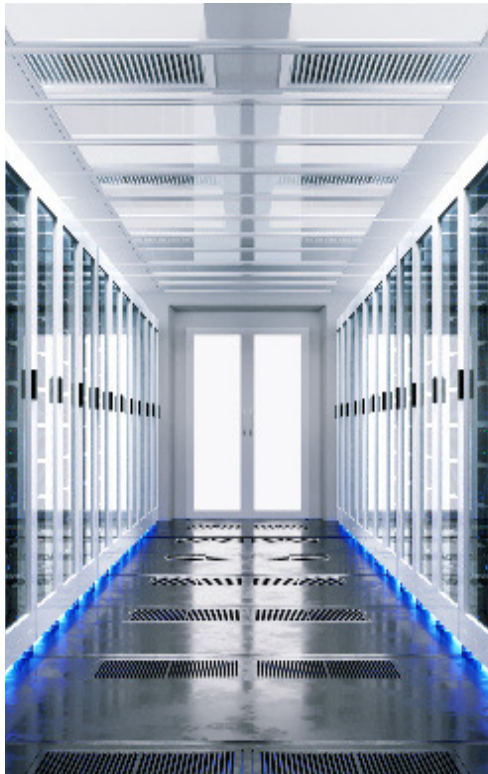CBI

Research areas to explore

Waste and pollution

New energy solutions

Cloud

Data centres efficiencies

Water Management

Software

Agriculture

Supply chain

Ethics

Green finance

Circular economy

Violence against women and girls
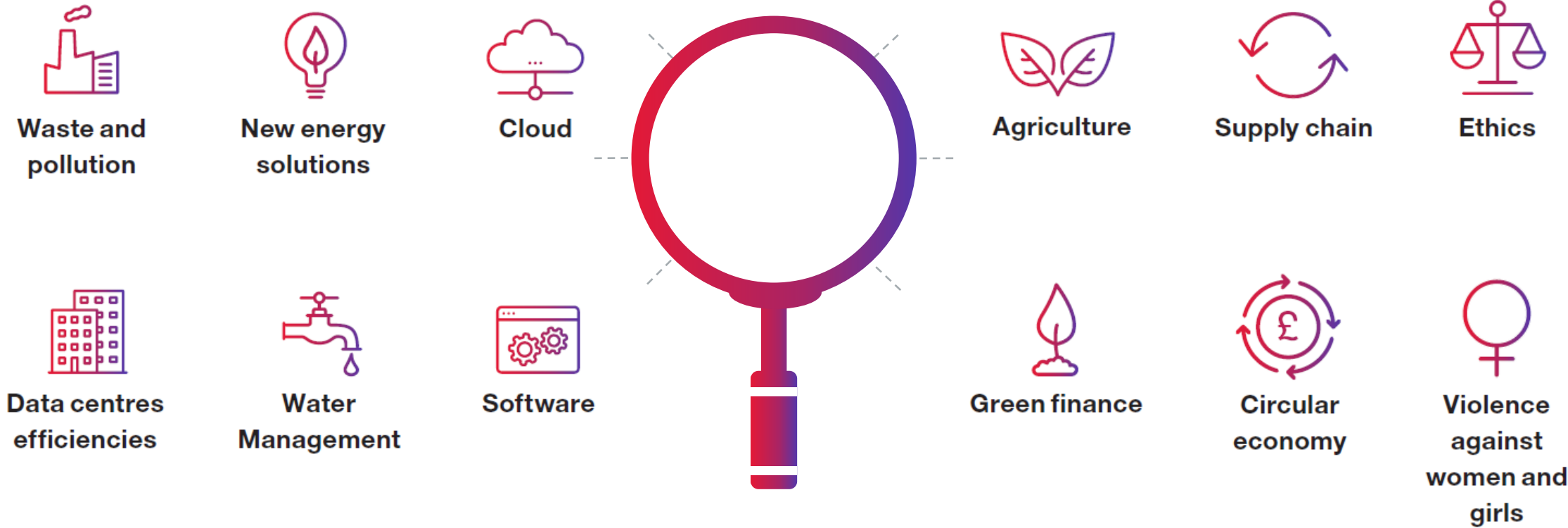
Active SEEDS Projects

Development of a **digital twin** of a **data centre** for energy modelling to optimise energy efficiency
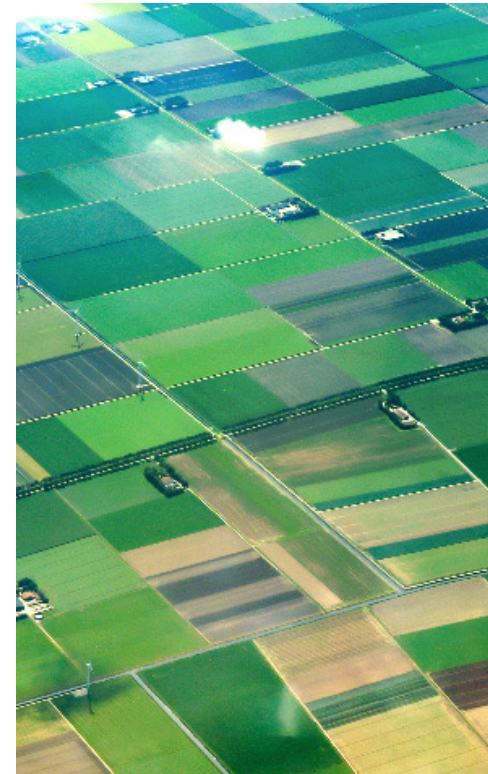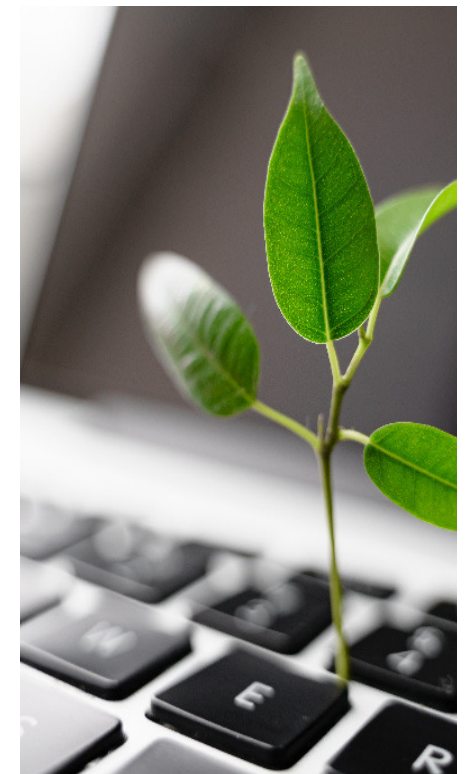
Identifying whether we can **predict** Great Britain **water pollution events** from **space** using both open data and commercial data

Integrate **climate projections** and crop **yield forecasts** to inform future **agricultural land management** practices
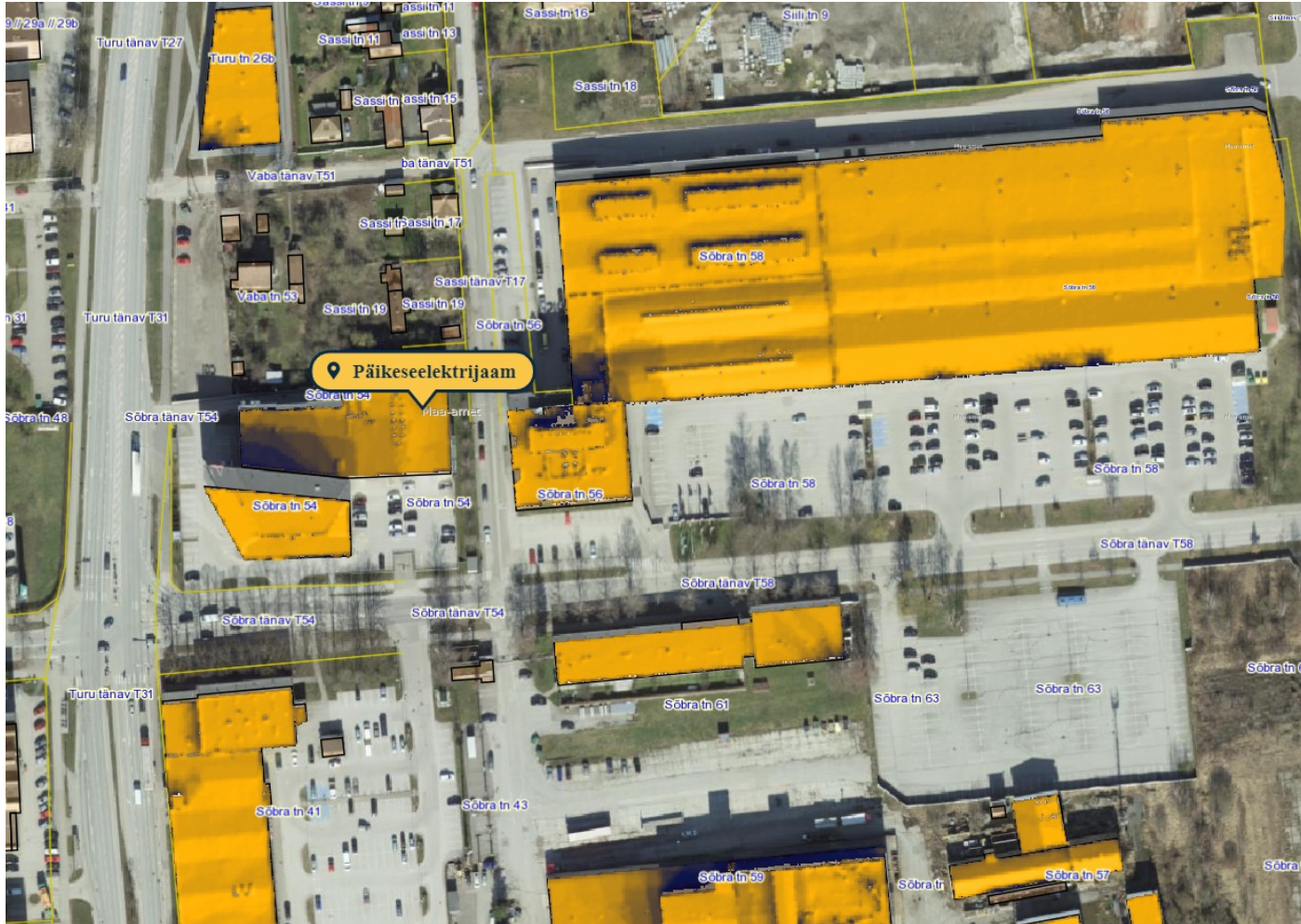
Develop a **guide** on **green code/software** and identify how sustainable we can make platforms.

CGI - Space sustainability

Forestry and Food Security Thematic Exploitation Platform - monitor health of vegetation or crops

Traceable Underpinning Terrestrial and Helio Studies - improving accuracy of EO radiations date for climate modelling

AI4EO Fire monitoring - combines EO, AI and cloud computing to track devastating wildfires

CGI GeoData360 - data processing platform for geospatial and satellite imagery

EO4SD Lab - cloud platform to enable sustainable development sector to efficiently use space based data

Project Seagrass - Using EO and CGI Geodata360 to identify the healthy seagrass meadows and raise awareness of its benefit to reduce the UK's Carbon Footprint

Greenhouse Early Warning System - EO to track performance and energy loss from greenhouses

Digital Twin Earth Precursor - visualise and monitor activity on Earth

Wind Storm Information Service - understanding and mitigating impact of windstorms

CGI GeoApp - tools to take advantage of location based data and intelligence

eSurge - forecasting damaging coastal surges

Defra's EODS - reducing cost of analysis ready data

AIAdvance - using artificial intelligence to speed up critical climate insights

PASSES - continuously monitoring peatlands health and land-use

Rooftop Solar Energy Generation Analysis

- **Combination of CGI's space, geospatial and utilities domain knowledge**

- **Input data**:
- Remote sensing data
- Geospatial data layers
- Historic weather data
- Available infrastructure data
- **Calculated data:**
- Total area of the roof
- Roof angle
- Direction/angle of the sun
- Physical obstacles on the roof
- Shadow areas
- **Output data:**
- Optimal area of solar paneling on roof
- Number of panels
- Maximum output kW
- Annual production estimation

Thank you!