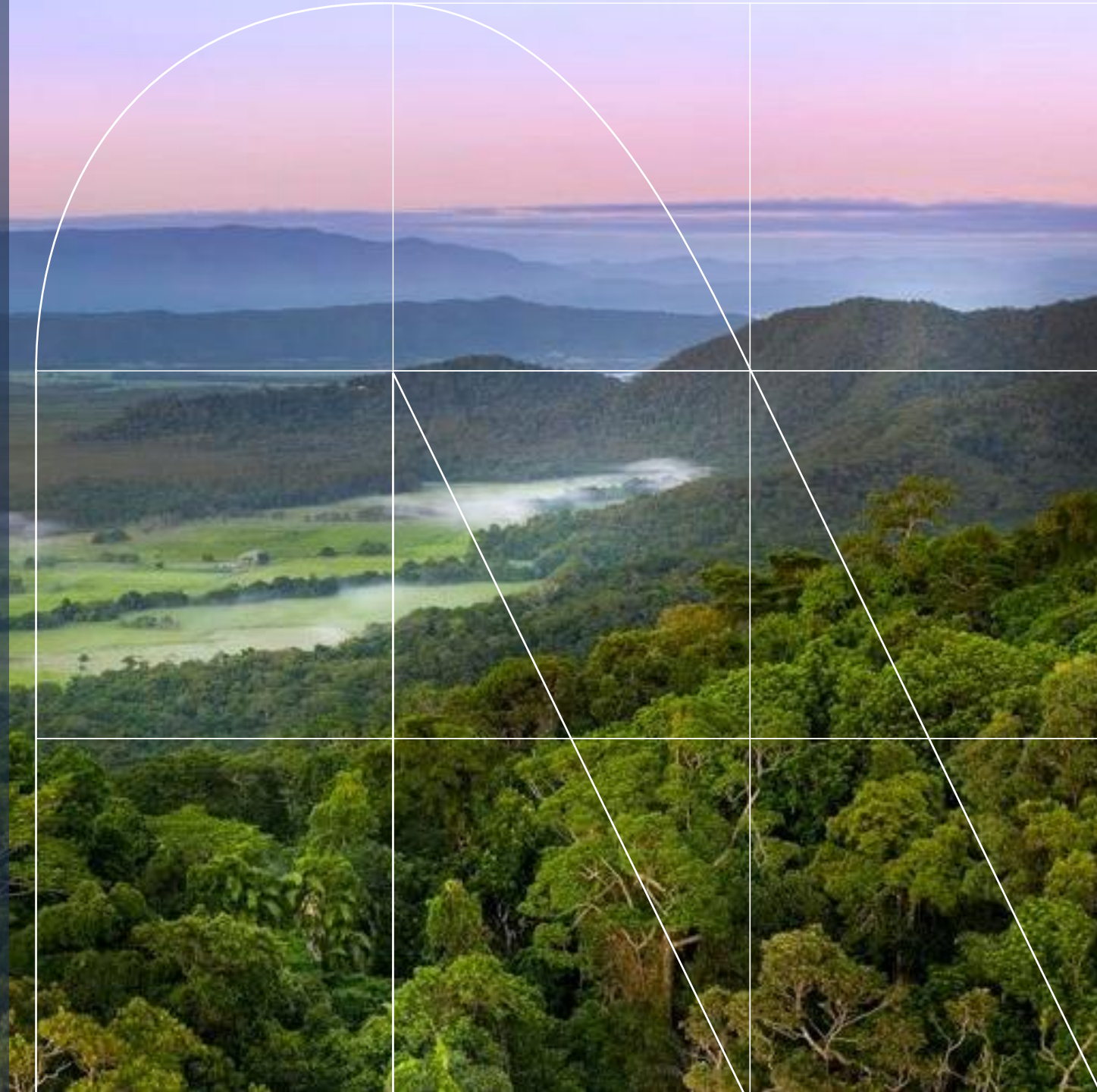
NTT DATA

ClimateForce Rainforest Regeneration

Custom applications to help regrow the Daintree Rainforest and others around the world



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How NTT DATA helps ClimateForce

Conservation Problem

Huge swaths of ancient rainforests have been clear cut for farming, ranching, urbanization etc. The loss of these areas has a serious impact on global health for all species.

The NTT DATA SMART Platform and ClimateForce Solution

ClimateForce has set out to regenerate an old banana farm that can be found in the Daintree Rainforest in Queensland, Australia. With their staff of biologists, other scientists and volunteers, and now NTT DATA's Smart Management Platform, ClimateForce is conducting various regrowth trials with the goal of providing other land-owners with solid data, costing and biodiversity models and tools to help them regenerate their land.

SMART Rainforest Project

A 3-year project initiated in January of 2024 between NTT Group, NTT DATA, Inc. and Climate Force to inspire data-driven insights for the acceleration of rainforest regeneration globally

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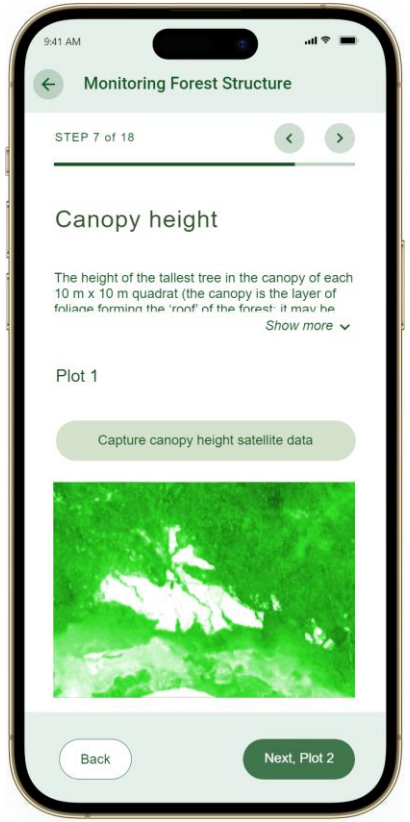
Planting Site Survey Tool

An offline, mobile application used in the field to gather growth, health and situational data

Benefits

- Allows for offline, digital capture of site health
- Ensures consistency in data collection
- Harnesses satellite data to measure canopy height and closure
- Greatly decreases the time a site survey takes by > 50%
- Enables faster processing and sharing of data insignts, predictions and AI-based recomendations



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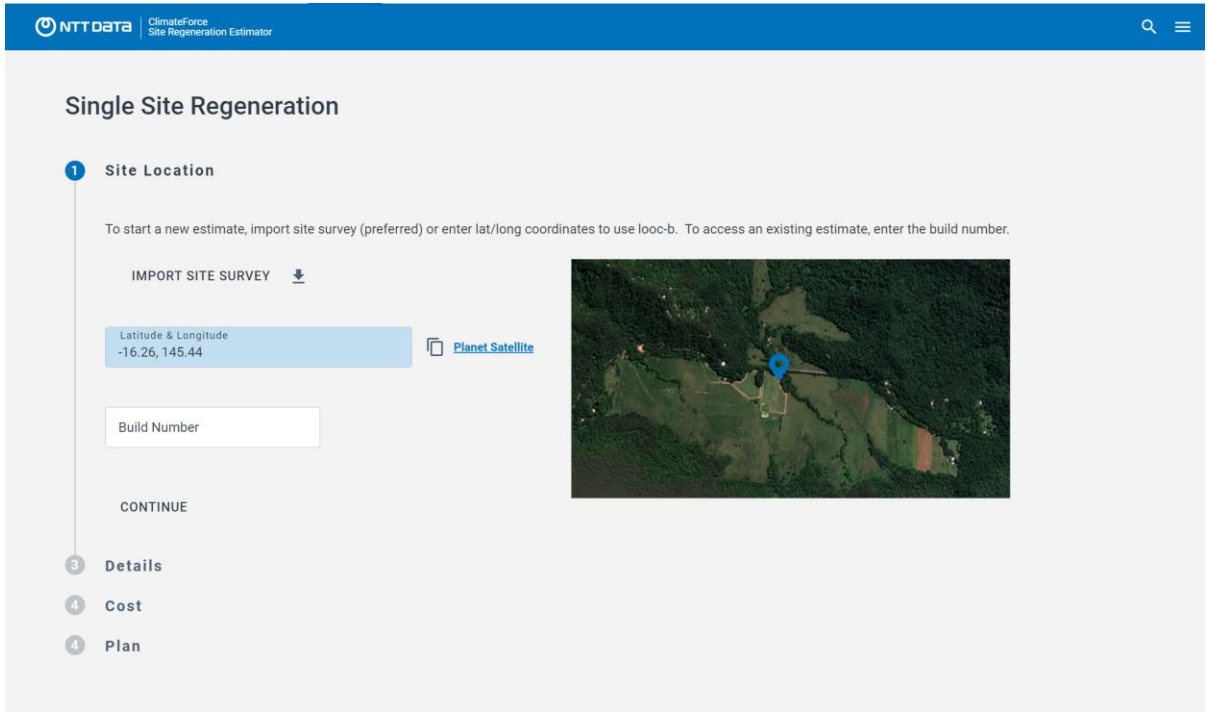
Land Regeneration Estimator Tool

A web-based application used by landowners and conservationists for guidance on planting plans, predicted biodiversity improvement, carbon ROI, and costing information

Benefits

- Allows for meaningful plans and predictions anywhere in the world
- Satellite data ensures accurate projections of carbon sequestration and biodiversity expectations
- Provides land-owners with detailed planting plans built around yearly budgets
- Reports showcase Return on Carbon Investment and Carbon Sequestration expectations



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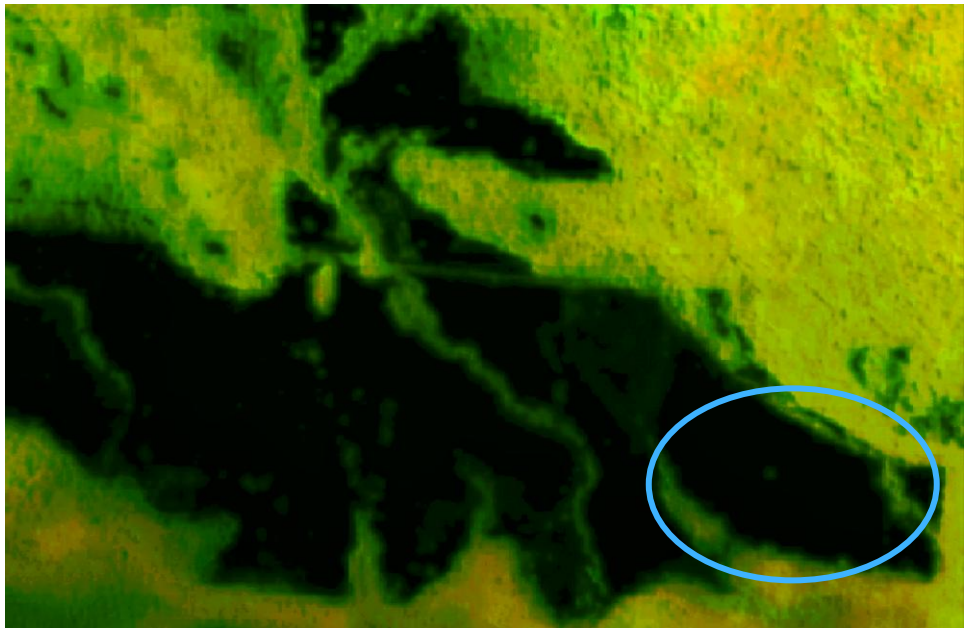
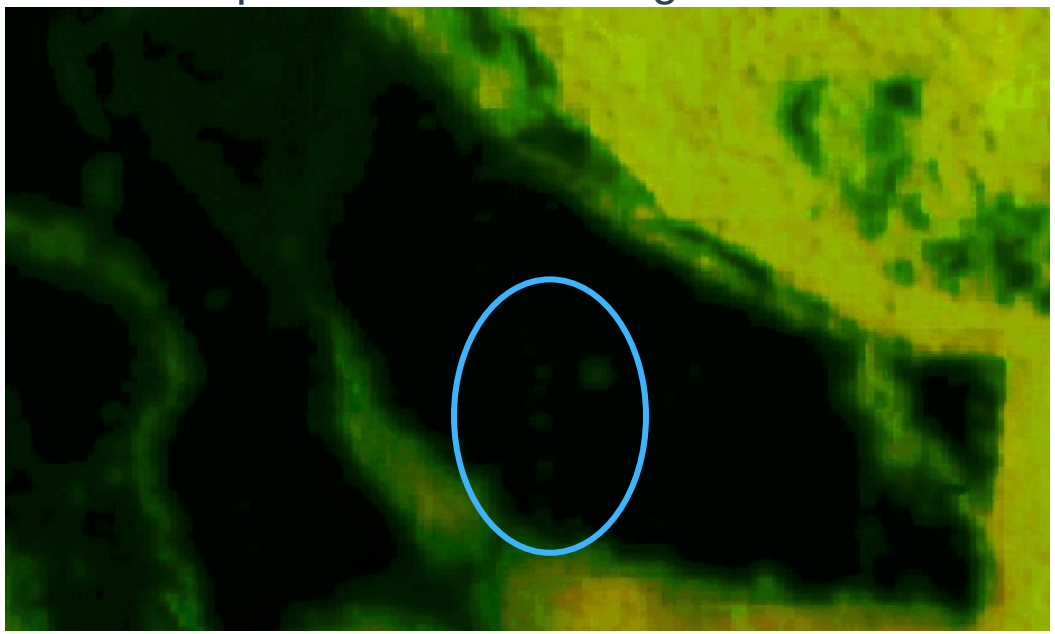
Satellite Carbon Stock Data shows ClimateForce is starting to make progress

Planet Satellite images of the regeneration site in 2021 prior to beginning the reforestation project (left) and, 2024 after just 2 years of growth (right, zoomed) where carbon sequestration is beginning to show in the newly planted out areas.

2021 regeration site
Plant-out 1, 2, 3 circled



2024 Zoomed image of Plant-out 1 circled, carbon sequestration becoming visible



Darker areas show less carbon sequestration, lighter areas show more carbon being absorbed by the rainforest

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About

NTT DATA SMART Management Platform (SMP

January 2024

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NTT DATA Smart Solutions

Facing the challenges of the Data and AI revolution

Organizations are challenged with gaining insights from the explosion of disparate data incoming from innumerable sources.

What are NTT DATA Smart Solutions

- A set of cross industry, data-driven analytic applications
- That process data from virtually any data source
- Designed to transform this data into actionable intelligence and business outcomes
- Powered by the NTT DATA Smart Management Platform (SMP)

Manufacturing	Healthcare	Real Estate	Transportation
Cities	Entertainment	Insurance	Retail
Sustainability			

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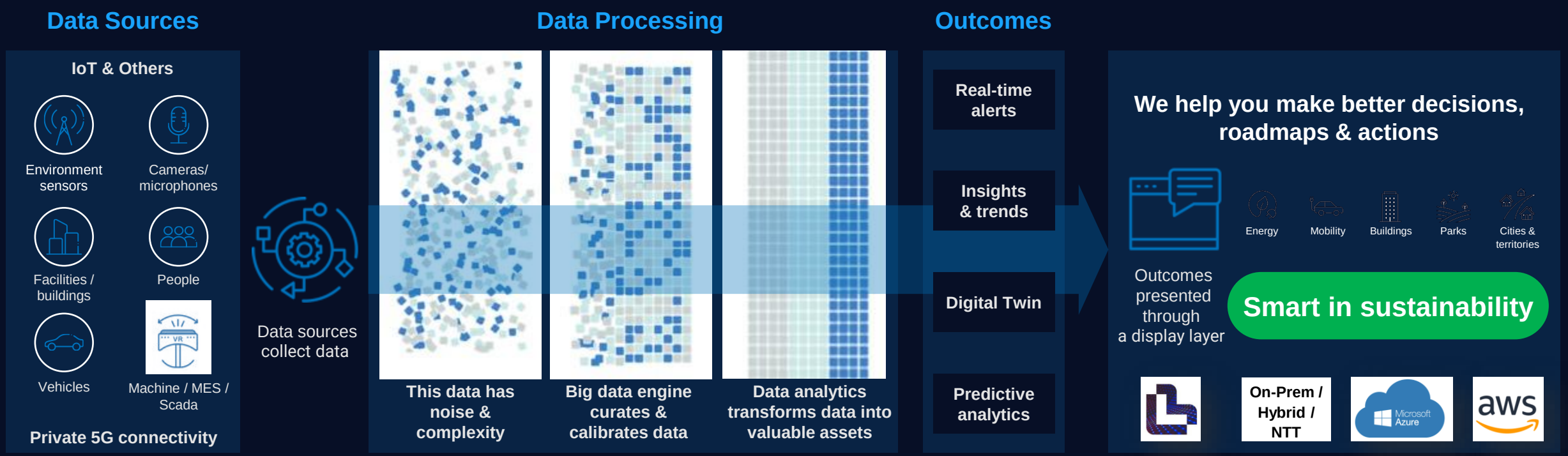
NTT DATA Smart Management Platform: A foundation for Sustainability

A set of people-centric IoT-enabled edge analytics applications that process & transform ESG data from virtually any data source into actionable intelligence & outcomes. Solutions aligned to your business & sustainability goals including carbon accounting and your broader ESG.



BENEFITS

- Enhanced situational and sustainability awareness
- Improved responsiveness
- Force multiplier: technology helping human decision makers
- Increased efficiency and cost savings

NTT DATA shapes its roadmap to reduce the CO2e emissions of its data centers based on actionable insights from SMART.

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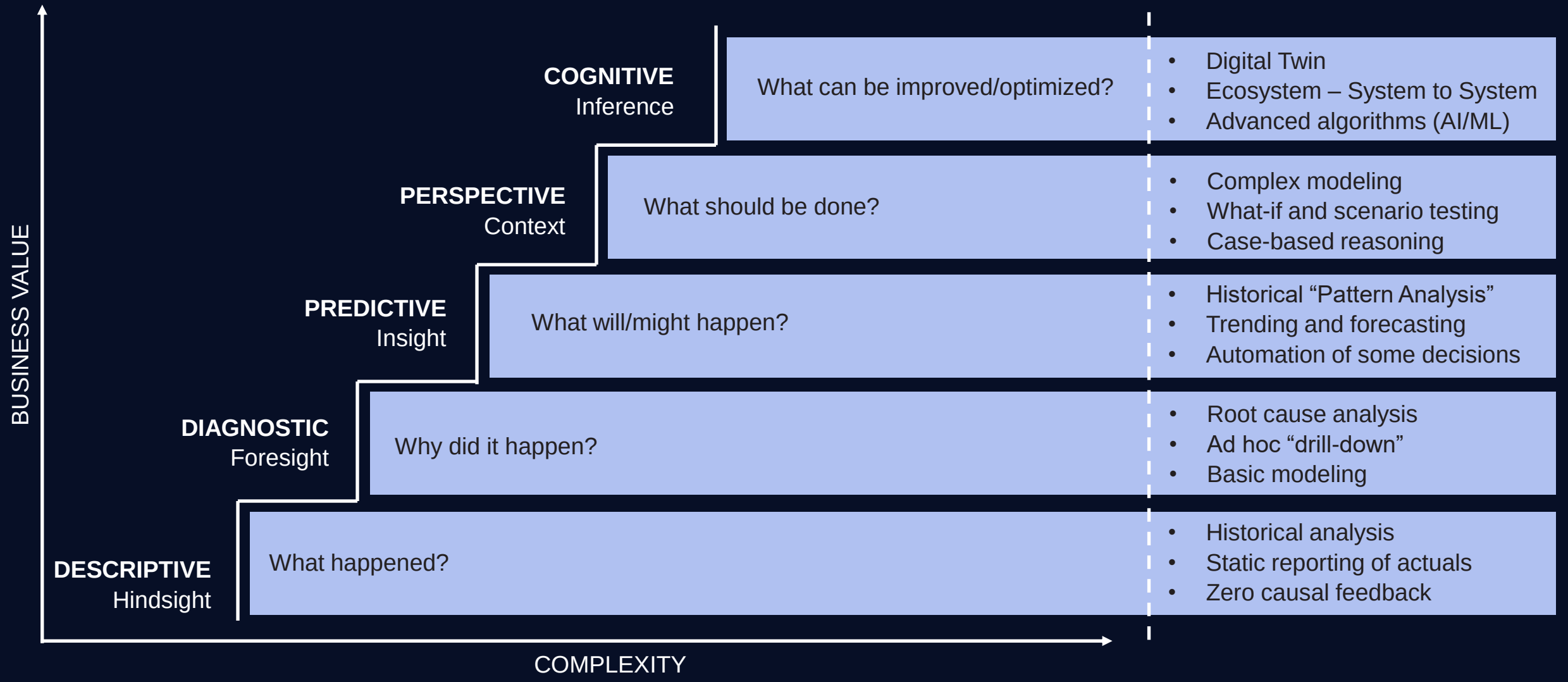
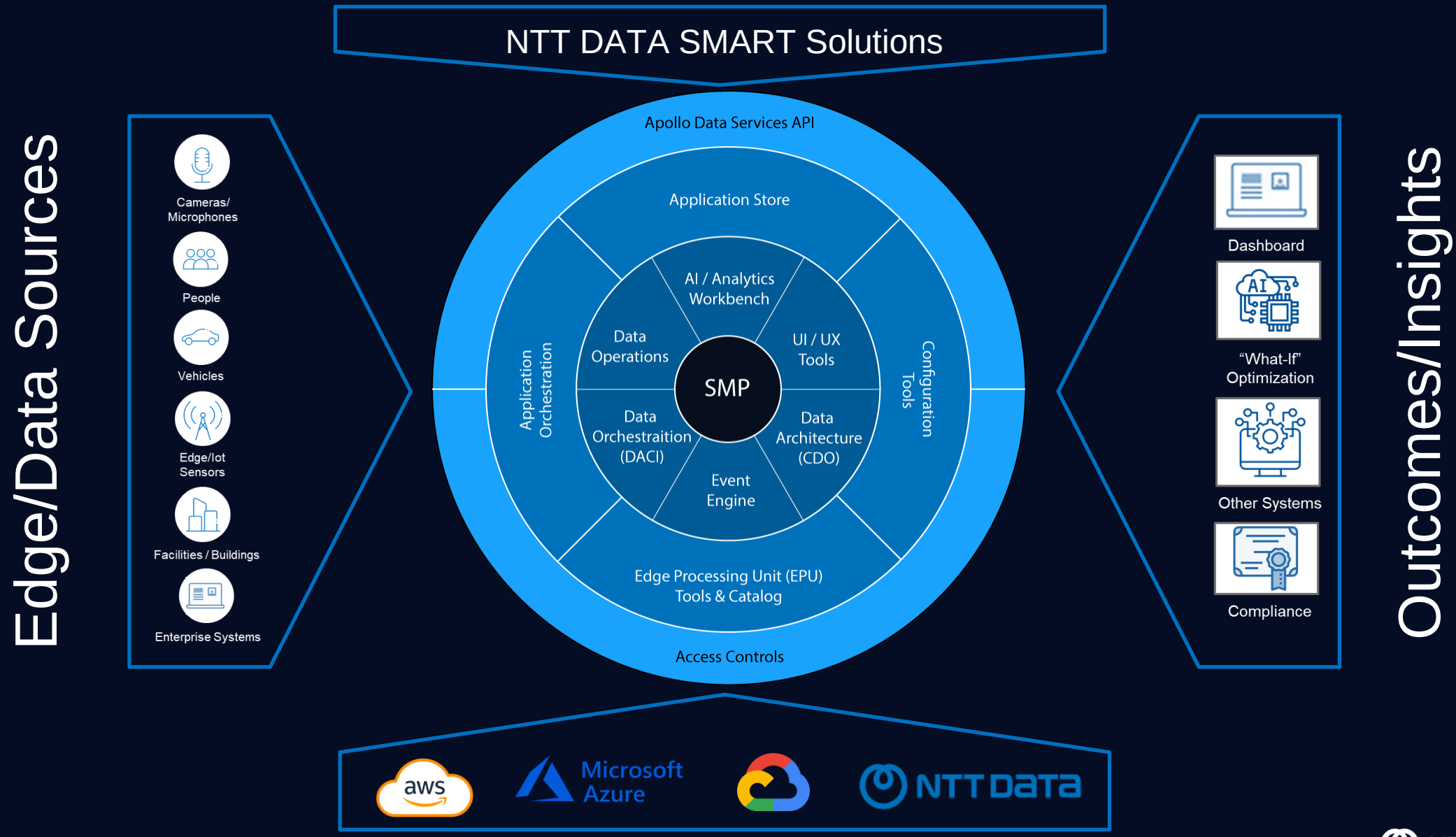
The Value of Data Driven Analytics



What does the Smart Management Platform (SMP) do?



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NTT Smart Solutions use cases

Although the platform has re-usable components, clients can buy the use cases they need and the ones that better suit their business and sustainability outcomes.

CITY/CAMPUS

Usage Analytics
Use of amenities e.g. parks, litter bins

Public Safety
Unsafe situations, incident response and prevention

Unsafe driving
Road incident response & prevention

Traffic predictions
Traffic trends for better planning and mobility

Transportation occupancy
Adjust service and inform travellers

Crowd monitoring
Situational awareness for planning purposes

Air Quality
Environmental intelligence for indoor and urban air quality monitoring

MANUFACTURING

Worker safety monitoring
Ensure correct PPE and no trespassing of yellow lines

EVENTS/VENUES

Occupancy and crowd monitoring
Regulate spectator flows

Fan experience
Personalized viewing and accurate sports statistics

Retail Operations
Provides on demand analytics for resource allocation and spend

HEALTHCARE

Patient observation
Detect patients leaving their beds when it's unsafe to do so or asking for help

BUILDINGS

People flows
Occupancy, space utilization, comfort, efficiency

Energy, water and waste
Provides on demand, historical and predicted analysis of energy use

Health checks
Non-intrusive temperature check

SUSTAINABILITY

GHG Emissions Analysis
Accurate Reporting for Statutory Compliance

Sustainability Digital Twin
Analyze trends in energy usage across Scope 1-3 and perform what-if optimization scenarios

The closed-loop
Real-time feedback can be used to alert the right personnel and influence the situation on the ground, e.g. pre-recorded audio announcements

Predictive insight
The system can deliver predictions to allow better decisions and prevent incidents

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NTT Smart Solutions Customers

Edmonton International Airport
On-demand Buses

Little Caesars Arena & Comerica Park
Smart Venue
Fan Experience

RAI Arena
Occupancy & Usage Analytics
Sustainability (AQI, Energy)

Muntstroom Living Lab
Occupancy Analytics
Situational Awareness

NTT Global Data Centers
Carbon Accounting

Chicago Navy Pier
Occupancy Analytics
Situational Awareness
Public Safety

CIC Brussels, NTT
Thermal Scanning
Occupancy Analytics

UC of Berkeley
Traffic Predictions
Safe Driving

NTT Germany
Air Quality Demo

North Carolina DOT
Wrong Way Driving

Joyson
Plant Safety

Denenchofu Futaba Campus (School Campus, Tokyo)
Traffic Solutions

City of Austin
Traffic Solutions
Public Safety

City of Las Vegas
Occupancy & Usage Analytics
Health Check
Traffic Solutions
Public Safety

IndyCar
Sports Statistics
Fan Experience
Occupancy Analytics
Traffic Predictions

Clark County
Occupancy Analytics
Park Solutions

City of Cyberjaya, Malaysia
Traffic Solutions
Vehicle of Interest

DBS
Occupancy Analytics
Crowd Monitoring

ClimateForce Rainforest Regeneration

NZCIS
Sports Statistics
Fan Experience
Occupancy Analytics

Victoria DoT
Occupancy Analytics
Secured APIs for 3rd Party Apps

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