



COP27 ROADSHOW

8 NOVEMBER 2022

Dawn Huntrod

Regional Membership Director North

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Today's Agenda

11.00am Panel Discussion

- **Brigitte Amoruso, Senior Energy & Climate Change Specialist, Make UK**
- **Hilary Tam, Principal BDM, Sustainability Innovation, AWS**
- **Dimitrios Spiliopoulos, Industrial IoT Lead for manufacturing, EMEA, AWS**
- **Matt Mould, Partner, Storm Reply**
- **Natasha Lyth, Sustainability Manager, Gripple Ltd**
- **Gordon Macrae, Special Project Manager, Gripple Ltd**
- **Rimsha Tariq & Peter Lai, Continuous Improvement & Digital Transformation/ 4IR, NGF Europe**

12.20pm Panel Q&A

13.00 Lunch

13.30 Optional Tours



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Brigitte Amouruso,
Senior Energy & Climate Change
Specialist

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SUSTAINABILITY TRANSFORMATION ACCELERATION TEAM (STAT)

Helping Customers Become Future Fit

Accelerating Sustainability Transformation
Make UK

Hilary Tam

hiltam@amazon.co.uk

Principal BDM, Sustainability Innovation

November 2022

AWS for Manufacturing industry



AWS leverages experience with leading industrial customers and Amazon's years of experience with factory operations.



AWS has purpose-built services to optimise operations at industrial sites.



AWS enables partner offerings addressing more industrial workloads than any other provider.

<https://aws.amazon.com/industrial/>

Future fit

adjective, future-fit, fit for the future

An aspirational state in order to remain relevant, compete and generate value in an increasingly resource constrained, carbon intense reality:

- 1) Sustainable, circular, and inclusive
- 2) Creates value (soc, env, eco) for a broad group of stakeholders
- 3) Leaves things better than how we found them

The purpose of business is to produce profitable solutions to the problems of people and planet, and not to profit from producing problems for people or planet.

- Colin Mayer CBE, Saïd Business School, University of Oxford



Current Business OS: Increasingly VUCA* Reality

Move customers from 'reactive' to 'proactive' to unlock scalable business models



Integrating ESG



Valuing human capital



Responding to climate change



Safeguarding natural systems



Building sustainable & resilient supply chains



Enabling sustainable consumption & production



Optimizing sustainability through technology



Protecting fundamental rights



Shaping policy, regulation & norms



Creating multi-stakeholder partnerships

The Sustainability Landscape is Evolving

From ...

To ...

Bolt-on

Built-in

The right thing to do

The smart thing to do

Less harm

More good

Risk-driven

Opportunity-led

Managing past impacts

Forward looking

Sustainability Of & In the Cloud

Sustainability Through the Cloud



AWS Future Fit Customer Engagement Framework

Understanding your level of ambition will help us qualify the opportunity for impact and value

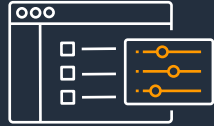


Data-driven optimisation to go further faster



Energy & Resource Optimisation

Reduce carbon footprint, waste and costs



Production & Process Optimisation

Increase productivity, reduce waste and reduce costs



Decarbonise Production

Measure, report and reduce carbon footprint per product



Future Fit Products

Improve customer satisfaction, product life and reduce carbon footprint



Case study: energy analytics and forecasting (ML/AI)

Coca-Cola, Turkey with distribution to 400M consumers

Improved clean in place (CIP) process

Saved 20% on energy annually

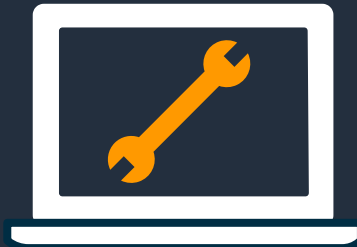
Saved 9% on water annually

Time and performance gains

34 days annual process gains/year

Multiple pathways to a successful green and digital transition

Build



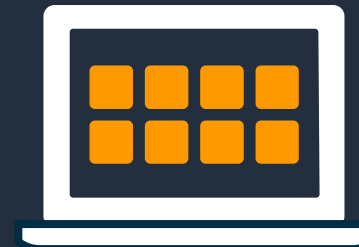
AWS Services &
Solutions

Engage



AWS Partners &
AWS ProServe

Deploy



AWS Partner
Solutions

Plus AWS manufacturing and sustainability focus teams to help customer journey

Thank you and get in touch with us!

Hilary Tam hiltam@amazon.co.uk

Dimitrios Spiliopoulos dimspil@amazon.co.uk

Charlie Hockton hocktonc@amazon.co.uk



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Matt Mould, Partner
Storm Reply

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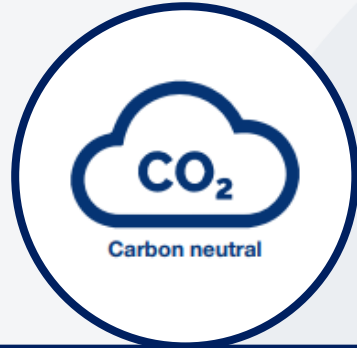
GRIPPLE

Tasha Lyth

Welcome to Gripple.

Our Sustainable Business

Where are we now?



Getting better every year

People

Our People champion sustainability



Our Employees

- ❑ Staff retention and development is a key element supporting our sustainability goals.
- ❑ Succession planning to ensure long term success.
- ❑ Helping our employees navigate net zero.

Supporting Households

- ❑ LED Lightbulbs
- ❑ Cost of Living support
- ❑ Understanding the impact of employee commuting

Long term Development

- ❑ Nourishing and developing skills.
- ❑ Training and Q&A sessions on Sustainability
- ❑ Developing our future leaders.
- ❑ Sustainability Champions at all levels.



Navigating Net Zero Together

Products

Delivering sustainable solutions across markets.



TM65 Mid-Level Calculation HF3-S8G-1MSS-F

Site name	Old West Gun Works
Site address	Saville Street East Sheffield, S9 7UQ
Products per year	119



Assessment date	11/08/2022
Assessor	Tasha Lyth
Organisation	Gripple Ltd
Contact	sustainability@gripple.com

Embodied carbon result with
'mid-level TM65 calculation'
method total:

0.525 (kg CO₂e)*

Type of product	MEP supports and bracketry
Capacity of equipment (M)	1.0 m
Product weight (kg)	0.08 kg
Material breakdown for at least 95% of the product weight (Y/N)	Y
Service life of the product (years)	25**



Products

- Equipping customers with embodied carbon results with TM65s.
- Frugal design to deliver the most value with the least impact.
- Delivering green solutions to new markets such as Solar and Rail.

Packaging

- Commitment to remove single use plastic within our Packaging.
- Changing packaging bulk to better suit construction customers.
- Partnership with Loadhog to deliver a complete solution.

Educating and Training Customers

- CPD presentations about our products.
- Upskilling customers through the use of TM65s
- Sharing best practice to deliver market wide change.



Ahead of the curve driving sustainability

Process

Finding innovative ways to be more sustainable



Embracing challenge and change.

Vertical Integration

- Securing our supply by moving production in-house.
- More control over the process and quality.
- Working to optimise our automation machines to improve energy efficiency.

Supply Chain Mapping

- Understanding our value chain
- Identifying logistics improvements
- Re-locating manufacturing to the main market to reduce shipping.

Accreditation and Audits

- Held ISO 14001 Since 2012
- Working towards B-Corp and Planet Mark Certification.
- Transparent approach to reporting.

Our Sustainable Business Strategy

Combines our People, Products & Process.

Our business is 100% employee owned and can never be sold.

We are building a business for future generations of employee owners.

Ensuring our business is climate positive is essential and a challenge we relish.

Ed Stubbs (Managing Director)



REDUCE



OFFSET



CONTRIBUTE

Prioritising meaningful reduction

- 75% Reduction Target from Baseline Year (2020).
- Implementing a 5% Year on Year reduction target across all regions.
- Solar Panel installations planned
- Investigating emerging technology
- Monitoring and Measuring for regular progress reviews.

Achieving Balance

- Offsetting our Controlled Emissions
- 2022 Operational Year = Carbon Neutrality Target
- Investing in high quality projects
- PAS 2060 Alignment

Going Beyond

- Contributing to our local communities and environments
- Investing in youth through conservation training and development schemes.
- UKGBC Transitional Fund Approach
- Contributing more than we consume to achieve our vision of Climate Positive.



Our Journey to Climate Positive.



GRIPPLE

Thank You

Smart to smarter

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Digital transformation

Part of CI but now with more focus



2022

Light touch systems
Manual and automated processes
More data than we can use
Relies Gripple spirit

£100 turnover
£14.5m profit
72% net promoter score

2027

Smart predictive systems
Primarily automated processes
Usable value added data
Smart stress free Gripple staff

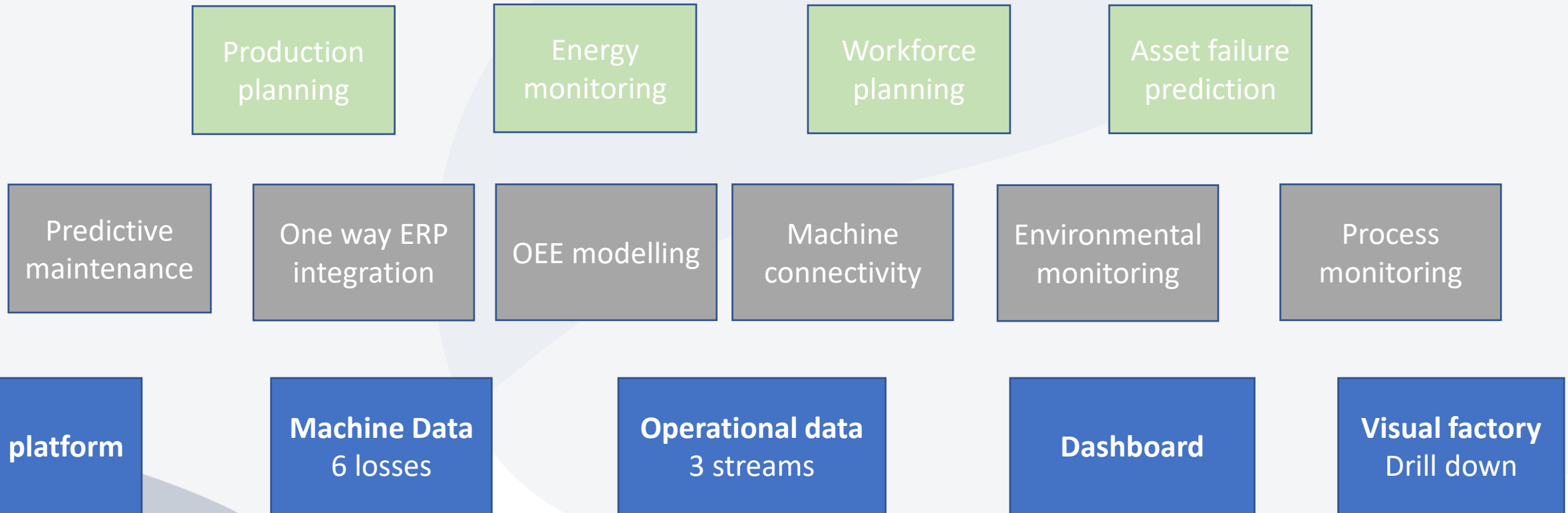
£200m turnover
£30m profit
80% net promoter score

Benefits

Wellbeing of our employees
Agility and responsiveness
Long term sustainability
Underpins our growth ambitions
Underpin productivity

Manufacturing informatics platform

Delivers on our smart to smarter ambition



Green futures

In an energy intensive business, you must be innovative



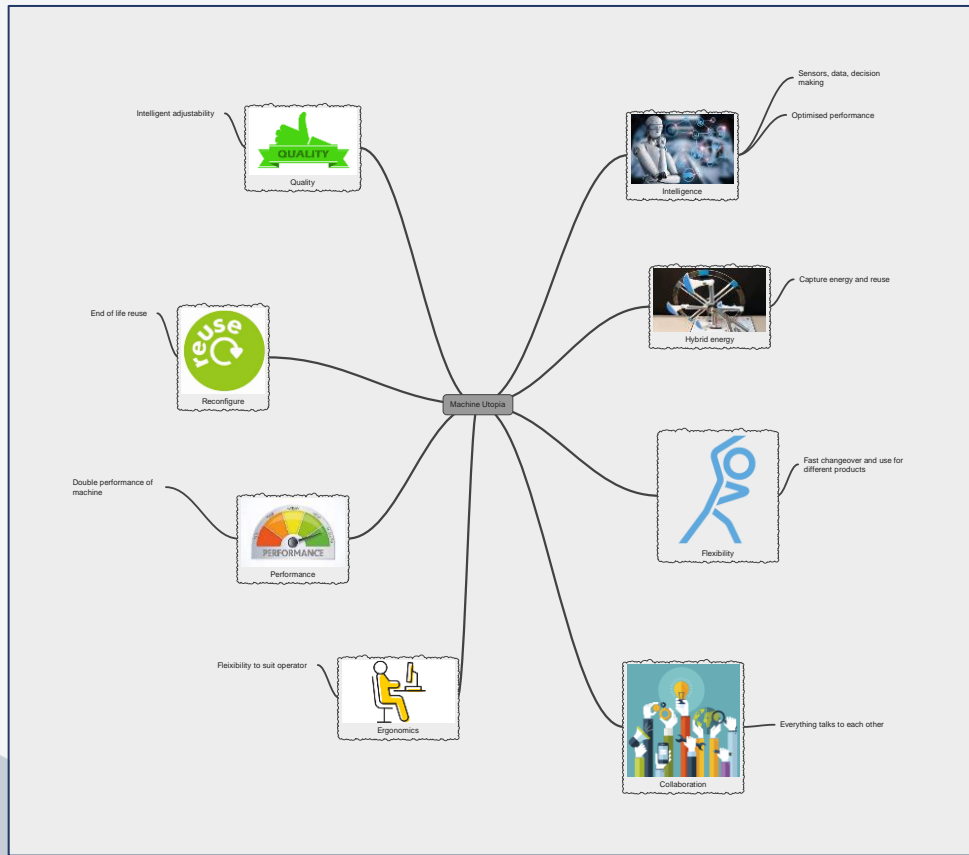
Objective to more than halve consumption

Capital cost of £6m, annual savings £1m

Projects at various stages of development

Machine utopia

Opportunity to be the world leader in design of machines



Process of putting the funding to do a machine utopia build

Energy capture, storage and usage separate work stream

Need to disrupt some of the thinking to improve speeds

What is the ultimate vision of automation?

What does it take to be successful

Digital transformation is not a magical cure

Ethical and **sustainable** approach

Digital **Investment** for sustainability and competitive advantage

Spirit and values



Strategy built around innovation, excellence and customer service

Collaborative approach with supply chain

Solution driven working with customers

Continuous improvement mindset

Smart manufacturing



Thank you for the opportunity to tell our story

Smart to smarter

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NSG

GROUP

Digital Technology

Harnessing Cloud, IoT & Big Data to drive sustainability

NGF Europe Limited





Peter Lai

Continuous Improvement & 4IR
Manager

27 years at NGFE

Lvl 7 Exec. Business Management



Rimsha Tariq

Continuous Improvement & Digital
Transformation Technician

BSc (Hons) Mathematics & MSc
Finance & Management

Certified Cloud Practitioner



What we do



NGF Europe Limited, is subsidiary company of the NSG Group, one of the World's leading manufacturers of glass products.

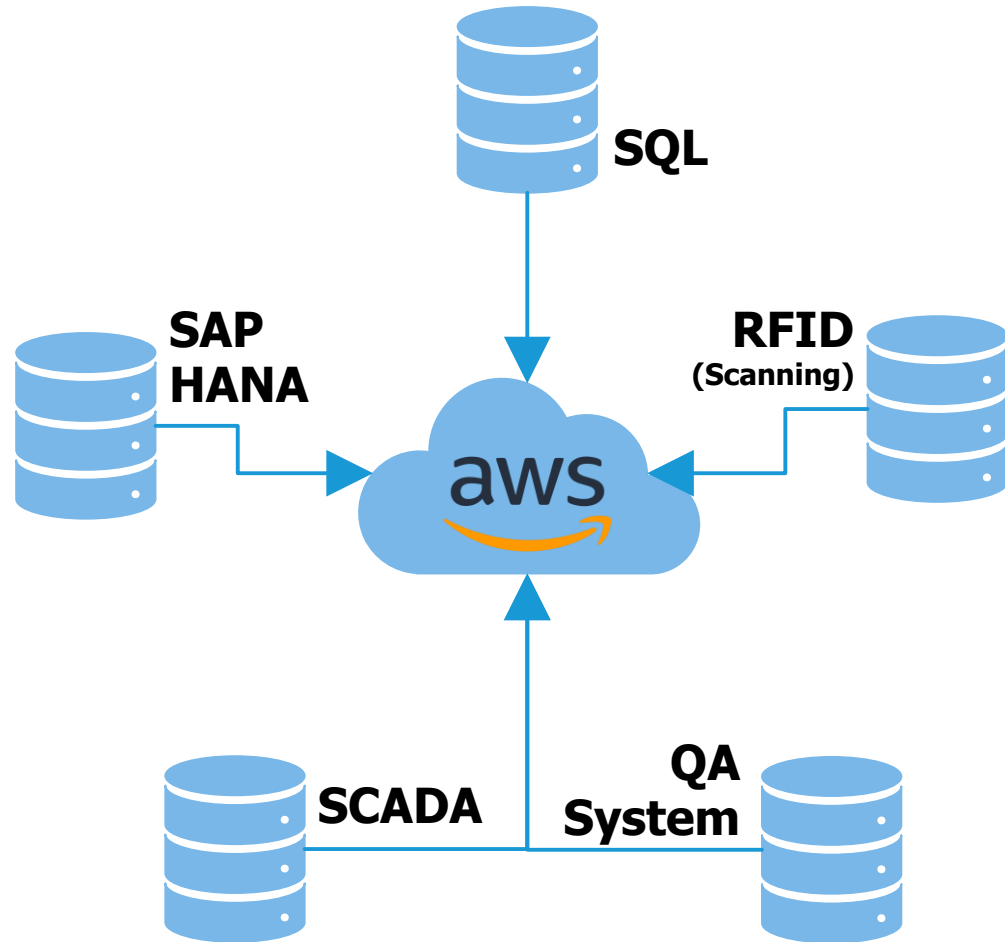
NGFE is at the forefront of the design, manufacture and marketing of specialised glass cord products used in synchronous drive applications.

Primarily used in the automotive industry, NGFE cord is also used in belts for domestic appliances as well as industrial machinery, office equipment and power tools.



	Benefits	Problems
Replacing Primary Coating incinerators with new heaters and abatement system.	Significant reduction of natural gas consumption per unit of manufacture.	Old tech not capable of easy monitoring , new tech vast amount of data available but useless without linking MRP - e.g. what are you making. Data sources on multiple networks.
Replacing Secondary Coating ovens and incinerators with new equipment and abatement systems.	Significant reduction of natural gas consumption per unit of manufacture.	Energy intensive systems without efficient heat recovery.

Forming our 'Data Story'



SQL – Legacy Data



SAP Hana – Production Reports & Admin



RFID – Scanning Data



SCADA – PLC Machine Data



QA System – Live test data for customers



BRINGS TOGETHER
ALL DATA SOURCES



REAL-TIME
DASHBOARDING
CAPABILITIES



MEANINGFUL
BUSINESS KPIS



SECURITY

Problems
Too much data



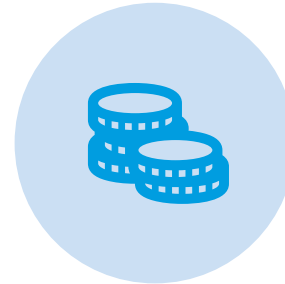
Solution
Automated A.I. & ML







50% CO_2 reductions since 2016 on NGFE Site



£10k+ savings a year using IoT for scrap reduction (Project completed within 6 weeks)



Projected: savings **£12k+** a year in waste reduction of raw materials (Achieved during POC)



£100k+ return, **30-40%** downtime reduction and an improvement in yield over a year

NSG Sustainability Goals

Scope 1 + 2 (Direct & Indirect Emissions)-
30% reduction target: 2030

Scope 3 (Supply Chain Emissions)- **30% reduction target: 2030**

Carbon Neutrality – **commit to achieve by 2050**

EMS System

Intern Projects commencing **Nov 2022** to investigate best EMS systems

Implementation of onsite metering leading to further **1.5% CO₂ Emissions reduction**

In-depth statistical analysis not yet available

ISO50001 standard

Scheduled Audit **Oct 2023**

Onsite awareness for employees

Holds us accountable –keeps us on track



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