



GKN

A Global Engineer

Advanced Manufacturing
Key technologies for future success

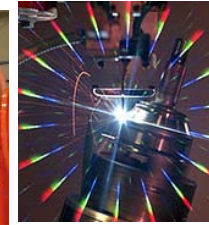
AWM Business Cluster Meeting
17th June 2010
Ricoh Stadium

Jon Beasley
Group Technology Officer

EXPECT > MORE

GKN Group Technology

- GKN's Industrial roots can be traced back to 1759 to the origins of the industrial revolution, to an Iron Foundry in Dowlais, South Wales .
- 2009 Global sales of **£ 4,468m**
- +38,000 people in over **30 countries** worldwide
- GKN provides technology-based, **highly engineered products** to the world's major manufacturers of light vehicles, agricultural and construction equipment, aircraft and aircraft engines
- Throughout its 250 year history, **technology** has provided the **foundation** for the success of the business, this is still true for today as well as tomorrow





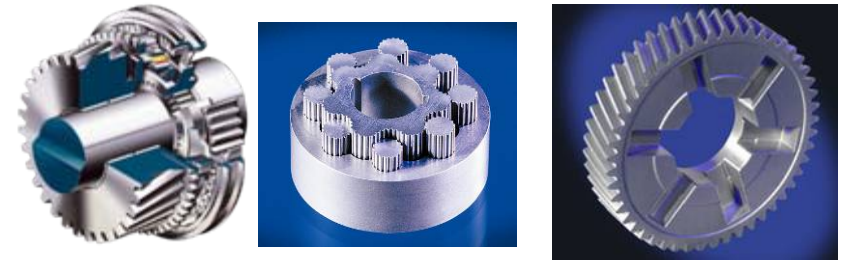
GKN Group Technology

GKN: leadership in four specialist, global sectors

Automotive Driveline



Powder Metallurgy

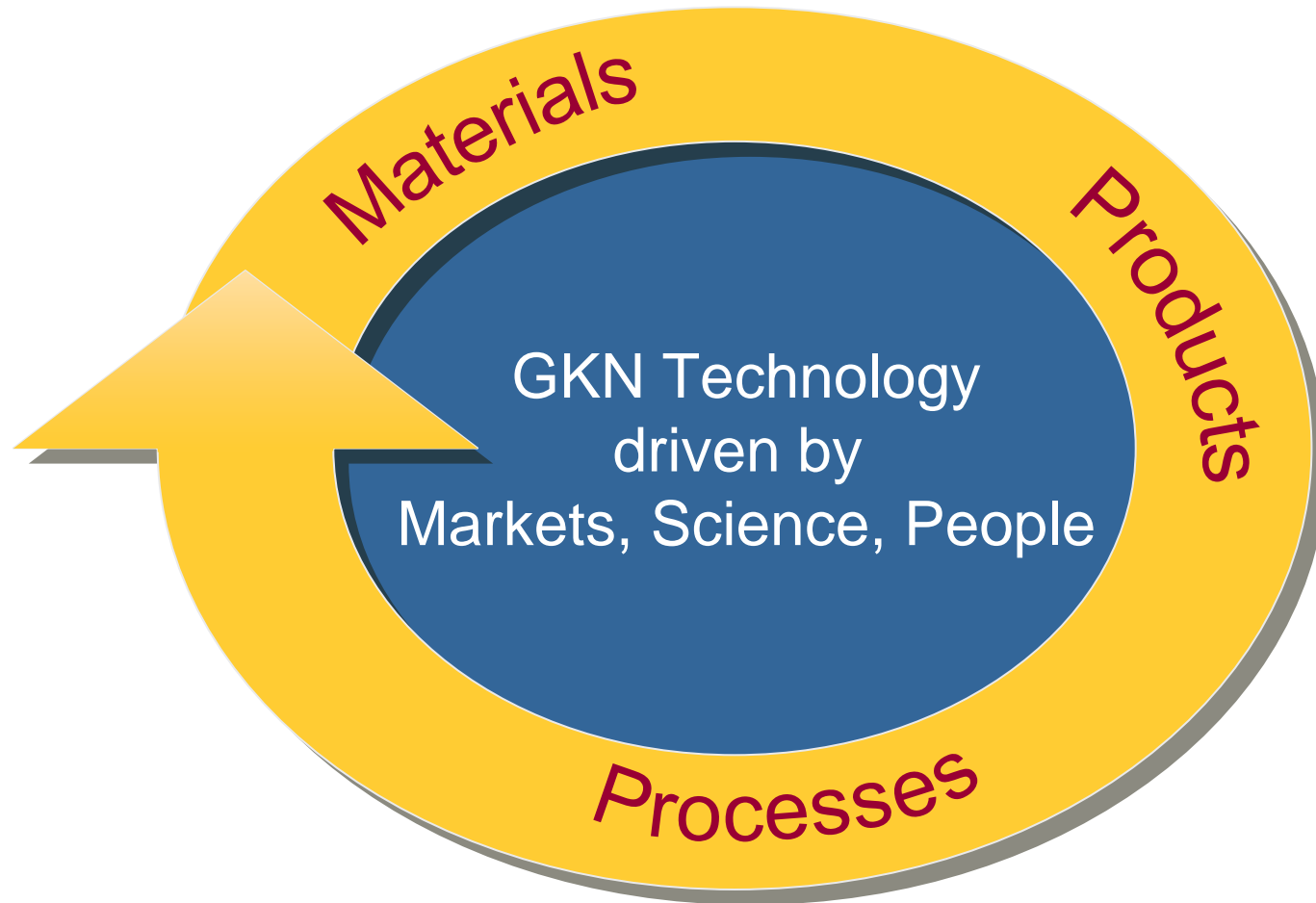


Land Systems



Aerospace





The cycle is a **continuum**, with developments in one theme, providing new opportunities or needs in another, GKN's Technologists are active and engaged in all disciplines

GKN Group Technology

-GKN Aerospace-

- GKN Aerospace is a **global first Tier supplier** of airframe and engine structures, components, assemblies, transparencies and engineering services to a wide range of fixed and rotary-wing aircraft, engine prime contractors, and other first tier suppliers. It operates in **three** main product areas: **Aero-structures, engine components and sub-systems and special products.**
- A leader in the design and manufacture of **advanced composites, transparencies and complex metal aerostructures**, the business is equally focused on military and civil markets
- 2009 sales = **£ 1,486m**, employing over 10,000 people.





GKN Group Technology -GKN Aerospace-

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- **Strategic Intention:**

- **Build upon our superior technology and design capabilities to grow the business by:**
 - **Exploiting our strong positions on existing programmes for new aircraft**
 - **Developing new technologies for future commercial and defence platforms**





GKN Aerospace Today - Global Footprint



- 10000 Employees Worldwide
- 600 Design and Stress Engineers



GKN Aerospace in the UK



- > 4150 employees
- > Corporate Headquarters
- > Global Composite Research Centre
- > Sales of \$500m in 2007
- > Sales of \$600m in 2008
- > 650 Engineers

Kings Norton - 314

Global Headquarters - 29

Filton 1552

W-S-M - 380

Yeovil - 268

Luton -370

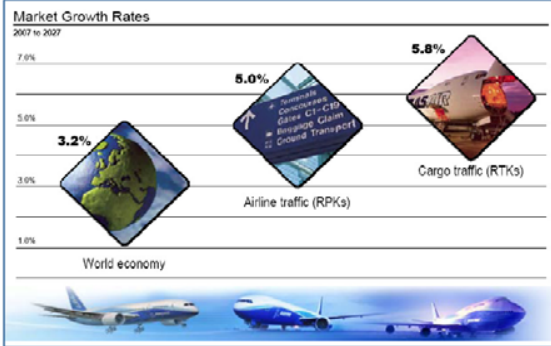
Portsmouth - 157

Cowes - 1000

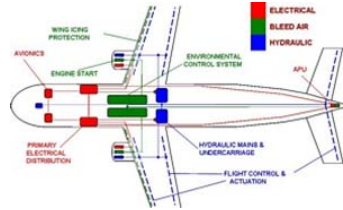
Composites Research - 30

Invested over £500M in the UK Aerospace business

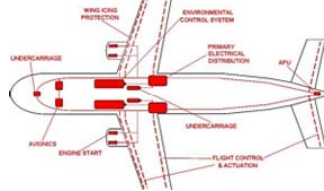
Civil Sector
Boeing: 20 Year Forecast



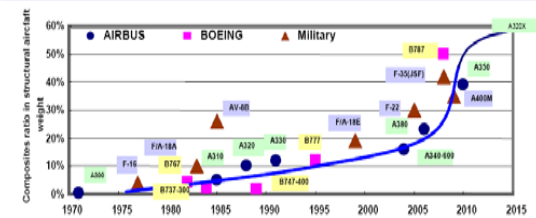
Conventional Aircraft Power Sources



More Electric Aircraft Concept



Aerospace Application – Expanding Composite Usage

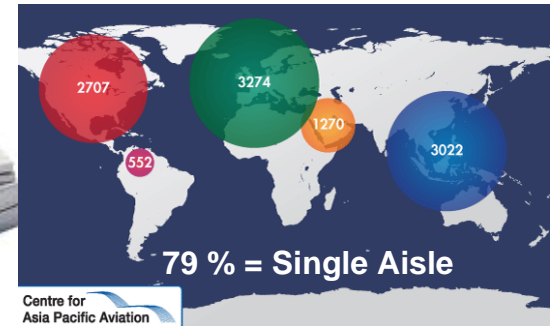
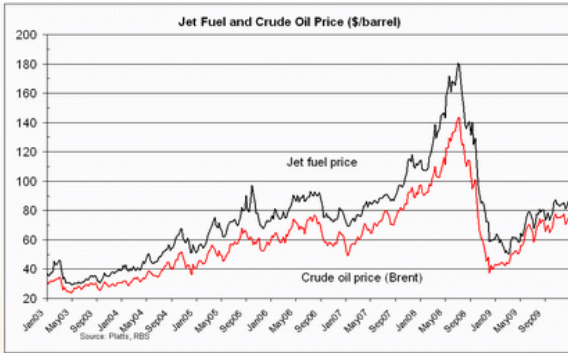


Airbus A380
660 Passengers
EIS 2008

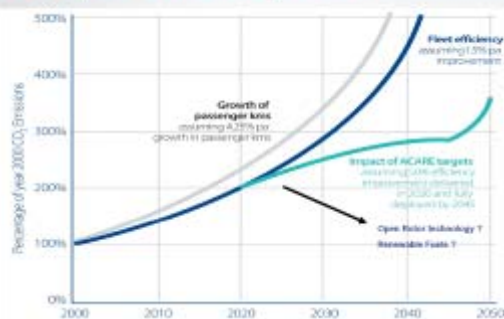
■ Main composite parts

Boeing B787
250 passengers
EIS 2010

■ Main composite parts

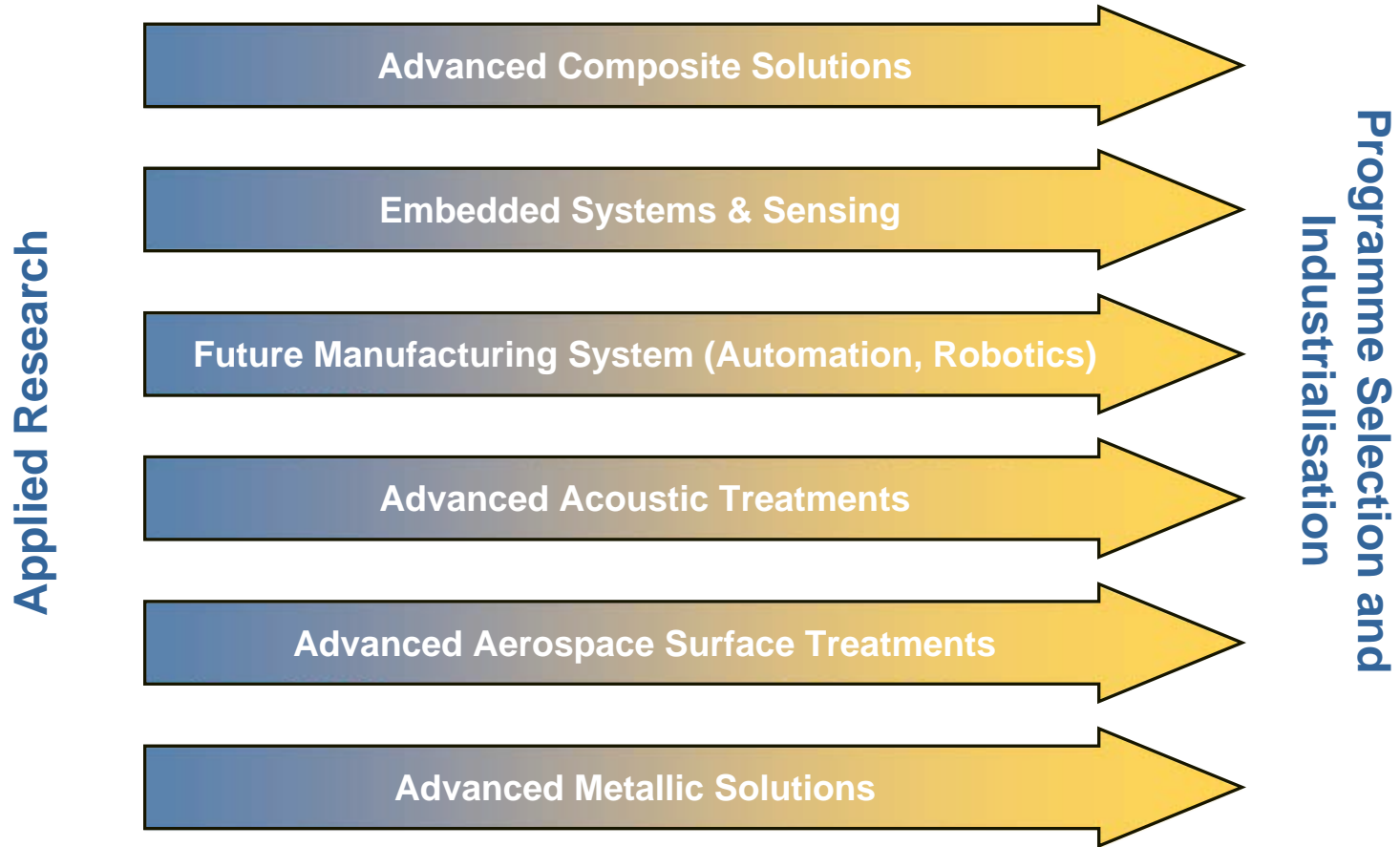


Effects of growth on aviation CO₂ emissions





GKN Group Technology - GKN Aerospace -



Collaborative Programmes / Demonstrators / Partnerships

GKN

A leader in Aerospace and Automotive



Introduction to SC21

ADS 

SC
21

21st
century
supply
chains



SC21 Introduction

A collaborative change programme to accelerate the competitiveness of the UK Aerospace and Defence Industry through the development of its supply chain.

Programme launched at the Farnborough International Airshow in 2006 and is overseen by the Aerospace Innovation and Growth Team (AeIGT)

Programme spans all regions of the UK

To-date over 500 organisations engaged, from prime movers to SME's in the UK aerospace and defence industry including the Ministry of Defence, the RDA's, Department of Business, Enterprise and Regulatory Reform, National skills academy for Manufacturing, Trade Unions and Regulatory bodies..

Ethos behind SC21 is to achieve a revised working culture which includes focusing on accreditation, development, performance and relationships between supplier and customers.

GKN supporting 9 key strategic SC21 suppliers





SC21 Signatory Commitments

Seven SC21 commitments

- Respect and adopt a new SC21 business culture
- Deliver Innovation
- Through-life solutions
- Delivering the SC21 plan
- Leadership
- Ethical practises
- Increased pace of change

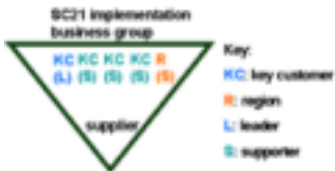
GKN Signatory Sir Kevin Smith, GKN Chief Executive Officer



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century
supply
chains

CUSTOMER ENGAGEMENT

Business group formation



Metrics alignment

- $$\text{Delivery} = \frac{\text{Number of 'On Time' deliveries}}{\text{Number of scheduled deliveries}} \times 100\%$$

(this shows the % of On Time Deliveries)
- $$\text{Quality} = 1 - \left(\frac{\text{Number of rejects}}{\text{Number of deliveries}} \right) \times 100\%$$

(this shows the % right first time)
- $$\text{Quality} = \frac{\text{Number of rejects}}{\text{Number of deliveries}} \times 100\%$$

(this shows the % of non-conformance)
- $$\text{Quality} = \frac{\text{Number of rejects} \times 1,000,000}{\text{Number of deliveries}}$$

(this shows the number of defects per million)

Code of practice



DIAGNOSTICS

Quality certification



Relationships

Business Excellence



Manufacturing Excellence



CONTINUOUS SUSTAINABLE IMPROVEMENT PLAN

CSIP



RECOGNITION

Award metrics

| Award Year | Quality | Costs | Customer Satisfaction | Employee Satisfaction |
|------------|-------------|-------------|-----------------------|-----------------------|
| 2008 | 100% - 100% | 100% - 100% | 100% - 100% | 100% - 100% |
| 2009 | 100% - 100% | 100% - 100% | 100% - 100% | 100% - 100% |
| 2010 | 100% - 100% | 100% - 100% | 100% - 100% | 100% - 100% |

Industry recognition



SC21 Task Force

**AEROSPACE
WALES**

fac
farnborough
aerospace
consortium
centre of excellence for aerospace and defence in the south east

Invest
Northern
Ireland



**Northwest
Aerospace Alliance**

midlands aerospace alliance

ADS
SCOTLAND

**WEST OF ENGLAND
AEROSPACE FORUM**



Meet Bi-Monthly to review progress against the various elements of the scheme, including feedback from special interest groups

Opportunity to formally recognise new award winners

ADS

**SC
21**

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Advantages for suppliers

- > Opportunity to build relationships with Key Customers and Suppliers
- > Shows you are willing to develop long term relationships with customer s and suppliers
- > Improved supply chain performance (QCD)
- > Understand fully what is expected of you
- > Skills learnt can be developed across whole of business to offer further opportunities
- > Recognition
- > Access to potential new customers
- > Enhanced Customer perception
- > Improved customer satisfaction and feedback
- > Focus for continued improvement
- > Standard metrics
- > Less duplication (audits, metrics)



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chains



Advantages for GKN

- > Reduce number of key suppliers
- > Place to look for new suppliers if required
- > Work together to understand/reduce costs
- > Transparency
- > Flexibility – pull systems
- > Trust/strong working relationships
- > Suppliers understand our goals/requirements
- > Shows suppliers are keen and hard working, constantly looking for ways to improve



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