

Laser processing and UK Industrial Strategy



Dr John Lincoln, Chief Executive
Photonics Leadership Group
Harlin Ltd

UK Industry - Why Care

- Steer Gov investment to 2021
 - Innovate, EPSRC, LEPs
 - UK Research and Innovation UKRI
- National productivity infrastructure fund
 - **Extra** £425million this year, £2billion in 2020
 - Industrial strategy challenge fund - **New**
 - £270m in Budget
 - Innovate, applied Science, research – **Innovate UKRI**

Productivity, Jobs, Geographic Distribution

Industry Strategy Why Care?

- Industry strategy = Steer Gov investment to 2021
 - Innovate, EPSRC, UK Research and Innovation UKRI, LEPs
- National productivity infrastructure fund
 - **Extra** £425million this year, £2billion in 2020, split
 - Innovate, UKRI
 - Industrial strategy challenge fund – **New**
- Focus
 - Productivity**, Commercialisation, Geographic Distribution



£246m batteries
£197m accelerating innovative medicines
£93 robotics and AI for harsh environments
£38m driverless cars R&D
£26m composites for aerospace automotive
£99 satellite test facility

Key elements – 10 Pillars



Investing in science,
research & innovation



Developing skills



Upgrading
infrastructure



Supporting businesses
to start and grow



Improving
procurement



Encouraging trade
& inward investment



Delivering
affordable energy
& clean growth



Cultivating
world-leading sectors



Driving growth
across the
whole country



Creating the right
institutions to bring together
sectors & places

- Investing in science research and innovation
- Developing skills
- Upgrading infrastructure
- Supporting businesses to start and grow
- Encouraging trade and inward investment
- Delivering affordable Energy and clean growth
- Cultivating world leading sectors
- Driving growth across whole country
- Creating right institutions to bring together sectors and places

Key elements – 10 Pillars

- Investing in science research and **innovation**
- **Developing skills**
- Upgrading infrastructure
- Supporting businesses to start and grow
- Encouraging trade and inward investment
- Delivering affordable Energy and clean growth
- Cultivating **world leading sectors**
- Driving growth across **whole country**
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Innovation pillar

- Improve commercialisation- R&D
- **Sector specific innovation funds** - matched by industry
- Industrial strategy challenge fund (ISCF) and UKRI
- Leverage local science innovation strengths
- Capital investment fund led by business for local research
- **New look at best practice in Uni licensing**
- More funded PhDs in STEM (confirmed in budget)
- Attracting international research talent in (in budget)
- Capital spending roadmap for fundamental research

Define laser processing challenge

Skills pillar

- Shortage of high-skilled technicians recognised
- Technical education overhaul - **T grades**
 - ‘leading to full professional competence in defined occupations’
 - Designed by employers
 - New institutes of technology - £500m in budget.
 - **GET INVOLVED with local FEC**
- New body to id skills gaps
- Engage in Careers & Enterprise Company’s Enterprise Adviser Network

Get laser processing into technical training

Other pillars

- Growth support **LASER PROCESSING**
 - Improving investment in long term assets that drive productivity
 - Ensuring uptake of new tech
 - Clean growth **LASER EFFICIENCY**
 - World leading sectors **MANUFACTURING of LASER SYSTEM**
 - **Industry proposals – skills, regulations, best practice, use of funding, new institutions....**for productivity, innovation, skills
 - ‘Sector deals not about providing additional gov funding’
 - Growth across the country **LASERS ARE in REGIONS**
 - Productivity by spreading best practice
 - **From early adopters to rest of industry**
 - Right institutions
 - Strengthening ...existing trade associations
- YOU FRIENDS and AILU**

The opportunity

- Sector Deal for photonics /laser processing
 - Industrial commitment match Gov commitment
 - Defining tech training, taking on trainees
 - Investment 'promises'
 - Providing leadership, management, running competitions
- >££ Funding for 'strategic challenges'
 - Define SMART appealing challenge(s)
 - E.g. Robotics harsh environments
 - **Broad impact, focused investment**
 - Fit to mould, have impact, inspire
- Strategic integration
 - **For productivity read laser**



What Next

- Respond to industry strategy
 - It's a consultation ..38 question focus on <10
 - <http://wp.me/p3FFx7-dn>
- Detailed plan of action for laser manufacturing
 - What, when, impact.....This is a sector deal
- Pool future plans
 - Strength in numbers
 - One voice, many customers

Key strategy questions

5. What should be the priority areas for science, research and innovation investment?
6. Which challenge areas should the Industrial Challenge Strategy Fund focus on to drive maximum economic impact?
7. What else can the UK do to create an environment that supports the commercialisation of ideas?
8. How can we best support the next generation of research leaders and entrepreneurs?
9. How can we best support the next generation of research leaders and entrepreneurs?
10. What more can we do to improve basic skills? How can we make a success of the new transition year? Should we change the way that those resitting basic qualifications study, to focus more on basic skills excellence?
11. Do you agree with the different elements of the vision for the new technical education system set out here? Are there further lessons from other countries' systems?
12. How can we make the application process for further education colleges and apprenticeships clearer and simpler, drawing lessons from the higher education sector?
13. What skills shortages do we have or expect to have, in particular sectors or local areas, and how can we link the skills needs of industry to skills provision by educational institutions in local areas?
14. How can we enable and encourage people to retrain and upskill throughout their working lives? Are there any lessons from other countries?
31. How can the Government and industry help sectors come together to identify the opportunities for a 'sector deal' to address – especially where industries are fragmented or not well defined?
32. How can the Government ensure that 'sector deals' promote competition and incorporate the interests of new entrants?



Innovate UK
Knowledge Transfer Network



EPSRC Centre for
Innovative Manufacturing in
**LASER-BASED
PRODUCTION
PROCESSES**

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John.lincoln@harlinltd.co.uk

@photonics_uk