

# Presentation of the main workshop results in the plenary session

*Workshop 2: Industrial Manufacturing*  
*Thomas Rettich, Photonics21 WG2 Chair*



# WG 2 - Industrial Manufacturing and Quality

## Workshop Results

---

### Proposal 1:

#### **Highly versatile tool technology for light-based manufacturing**

- High speed laser tools for next level productivity
- Versatile and reconfigurable systems for individualized production
- Fast and precise beam delivery

RIA, 20 M€, WP 2021

### Proposal 2:

#### **Sensors and data for prediction and control in digital light-based production**

- High speed quality analysis for self-learning manufacturing systems
- Full digital integration for “First time right”
- Process model integration for enhanced machine-learning

RIA, 20 M€, WP 2021



# WG 2: Industrial Manufacturing and Quality

---

## Proposal 3:

### **New Sources for Smart Radiation**

- Extreme light generating sources for metrology and material science
- Short pulsed lasers with extreme high average power for generation of X-rays and proton beams (medical, nuclear use)

**RIA, 15 M€, WP 2021-22**

## Proposal 4:

### **Materials for Photonic production**

- New alloys for additive manufacturing
- Photon modified materials
- Materials for photon induced functionality

**RIA, 15 M€, WP 2021-22**



# WG 2: Industrial Manufacturing and Quality

---

## Impact

- **Waste reduction (e.g. first time right)**
- **Clean water (e.g. by nanoscale sieves)**
- **Circular economy (e.g. rare earth recycling)**
- **Healthcare (e.g. personalized medical care and devices)**
- **Education and skills (need for students and highly educated experts at research institutes)**

