Presentation of the main workshop results in the plenary session

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