

I4MS 2015

**Enhancing Digital Transformation
in Manufacturing SMEs**

**22nd of May
Brussels**





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A new picosecond laser: changing
the way we design and manufacture
technologies of the future

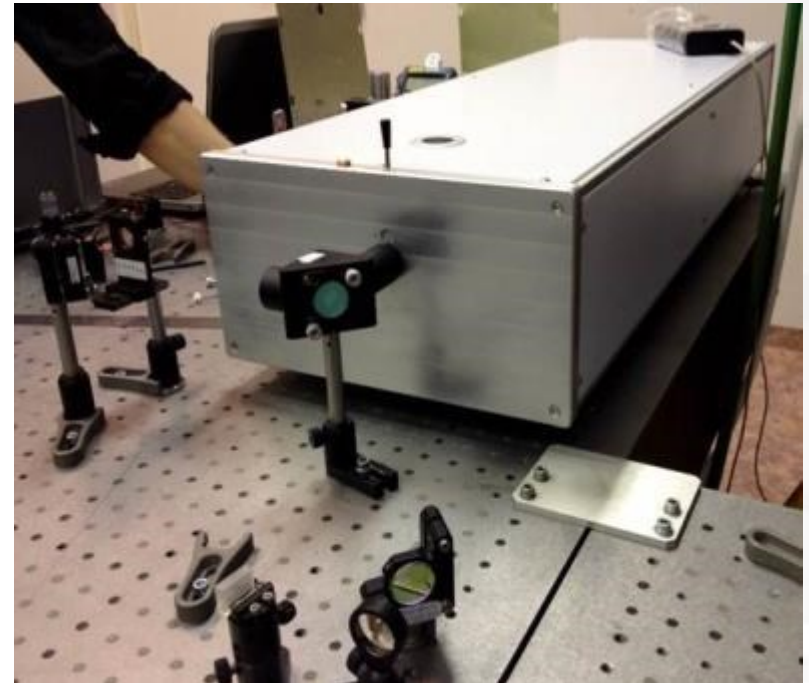
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WHAT WE ACHIEVED

1342 nm picosecond laser

New design of picosecond laser

- > 10 W mean output power
- repetition rate from 80 to 300 kHz
- full control of pulse number and energy
- synchronization with external devices, such as polygon scanners
- laser validation at CPSTC in selective ablation for thin-film photovoltaics for Flisom and Abengoa started
- To widen potential applications of the new picosecond laser, a full set of harmonics was also realized



HOW WE DID IT

More than year of intensive work...

- The work was done on the basis of previous experience with custom laser emitting at 1342 nm. The challenge - meeting the needs of an industrial application: high mean power, high repetition rate, precision, and exceptional laser control.
- After one year of modelling and experimenting the new laser for micromachining was created;
- The second harmonics at 671 nm and the third harmonics at 447 nm was demonstrated.



HOW I4MS HELPED



From Project to real world applications

- Collaboration with partners in European projects and support from EU for RTD activities allows EKSPILA to stay on the top of laser manufacturers, adding new jobs and production facilities.
- Financial support reduces risks of creation of lasers with non-standard wavelength.
- Outcomes of the APPOLO project will open new industrial market niches for ultra-precise and cost-effective material processing with benefits to the company and its customers.



HOW WE WILL TAKE IT FURTHER

New R&D labs, turnover grows, new working places

Recent achievements through APPOLO enable

- new R&D facilities > 300 sq.m.
 - clean room with 5 laboratories
 - new mechanical shop for prototyping
 - new test equipment
-
- We foresee that it will result
 - in more than 50% increase in turnover
 - more than 20 qualified specialist employment at Ekspla in the next 3years



New Vilnius

I4MS
THANK YOU
FOR YOUR ATTENTION

