
sisma
Laser

Additive manufacturing

Opportunity to dramatically innovate the design process

Opportunity to dramatically innovate the production flow

TRUMPF SISMA s.r.l

ADDITIVE MANUFACTURING
JV TRUMPF SISMA

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Since 1961…

Point of reference in the production of high precision systems, Sisma is a family owned company born in Schio (Vicenza, Italy) in 1961. The core business consists of laser sources and systems for welding, marking, 3-D cutting, LMF (Laser Metal Fusion) and chain machinery. Today Sisma is a multinational, worldwide renowned company with a strong and dynamic sales network. Great attention to customer care and technical assistance are distinctive features. Quickly growing, Sisma Group is looking for new profiles to face ambitious challenges and reach new goals. The company is also heavily investing in research and development. The aims are maintaining Sisma's technologic leading role and exploring new paths in laser systems.

	Year 2014	**Change in %**
Turnover (in mil. €)	38,5	+ 18.0
Employees (in Italy)	150	+ 10.0

Production sites

sisma Laser

sisma mec

sisma Lab

SISMA market distribution

Branches:

SISMA LAB
Romano d'Ezzelino
Vicenza - Italy

SISMA DO BRAZIL
Jundai - Brasil

SISMA LASER ESPAÑA s.l.
Barcelona - España

SISMA LTA Ltd
Bangkok - Thailand

SISMA CENTRO srl
Arezzo - Italy

SISMA MEA
Istanbul - Turkey

SISMA MEXICO
Mexico D.F. - Mexico

SISMA LASER - DE
Nurnberg - Germany

Representative offices:

- Dubai– United Arab Emirates
- Moscow – Russia
- Wuxi – China

SISMA main products

- **Laser:** marking, welding, cutting

- **Laser Metal Fusion**

- **CNC Milling and Laser System**

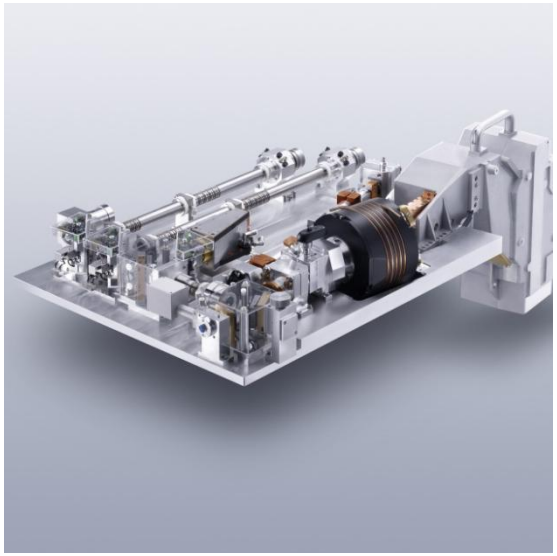
- **Jewellery machines**

TRUMPF a family owned company

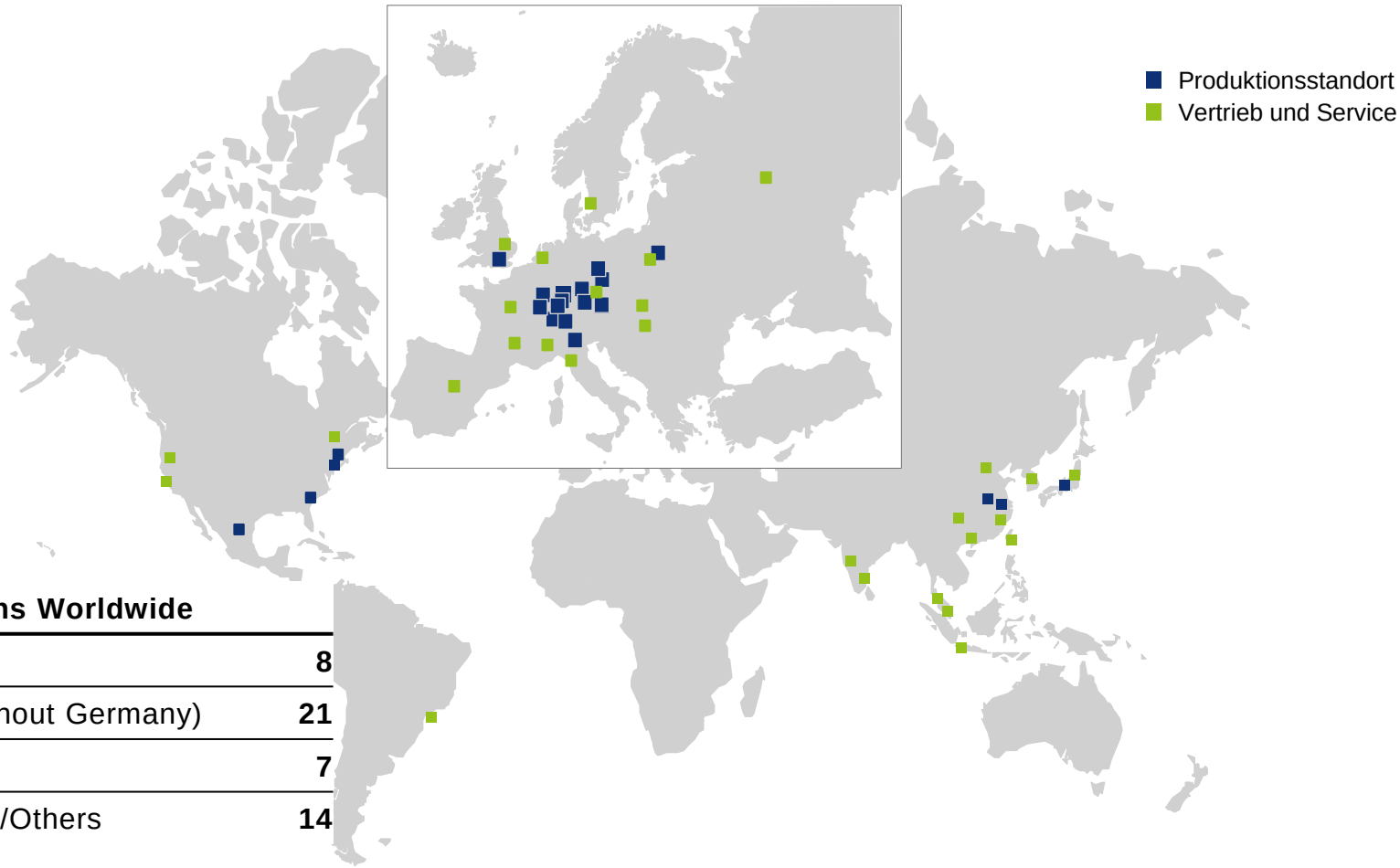
	Fiscal Year 2013/14	Change in %
Sales (in mil. €)	2,586,8	+ 10.4
Income before taxes (in mil. €)	248.4	+ 61.2
Investments (in mil. €)	124.8	- 8.4
Expenditure for research and development (in mil. €)	243.3	+ 15.3
Employees (as of 06/30/2014)	10,914	+ 10.0

TRUMPF business divisions

- World market and technology leader in production technology

Machine tools	Laser technology / Electronics	
		
Machine tools for flexible sheet metal and tube processing	Lasers for production technology	Power supplies for high technology processes

TRUMPF Worldwide presence



50 Locations Worldwide	
Germany	**8**
Europe (without Germany)	**21**
America	**7**
Asia/Pacific/Others	**14**

TRUMPF is a pioneer in Industrial Additive Manufacturing

2004 TRUMPF-POM cooperation
First DMD505

1999 Start of the AM activities together with Fraunhofer ILT

Fraunhofer

2007 TRUMPF Technology package LMD

1998 2000 2002 2004 2006 2008 2010 2012 2014

Presentation of the first SLM machine **2003**

Re-entry of TRUMPF in AM and JV with Sisma **2014**

2005 Qualified SLM machine for steel, titanium and inconel

2008 SPI fiber lasers

15 years of experience with additive production technologies

Organization TRUMPF SISMA S.r.l.

- **Location:**
  Piovene, Italy
- **Divisions:**
  devolpment, application, product management, services, business development

Purpose of the Joint Venture

- The purpose of the JV is the **R&D and production** of Laser Metal Fusion of machines

Product: Mysint100

• Dimension of building platform:
  -Diameter: 100mm
  -Height [Z]: 100mm

• Materials:
- Bronze
- Steel
- CoCr
- Silver
- Gold

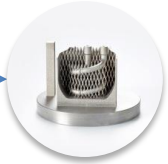
Why with Additive Manufacturing?

Market & Industry Drivers → **Additive Manufacturing Solutions**

Customization

Cost efficiency for small series

Integrated functions



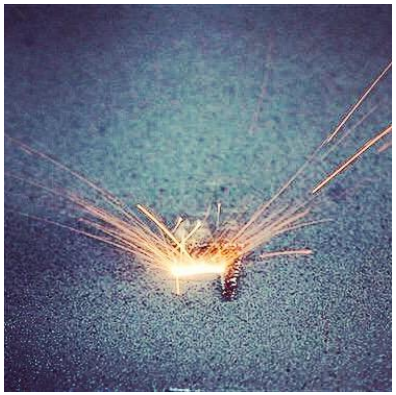
Production time reduction

Reduced eco impact

Laser Metal Fusion definition

LMF: is an additive manufacturing process that uses 3D CAD data as a digital information source and energy in the form of a high-power laser beam to create three-dimensional metal parts by fusing fine metallic powders together.

Laser Melting



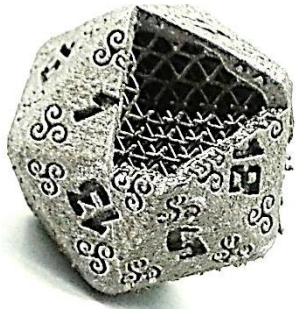
Before – Metal powder

After – Printed metal object

1. Optimal surface roughness
2. No porosity (density 99,9%)
3. Metal's mechanical properties preserved

Additive Manufacturing Process

… from 3D design to final product



3D CAD design → CAM → MySint → Finishing

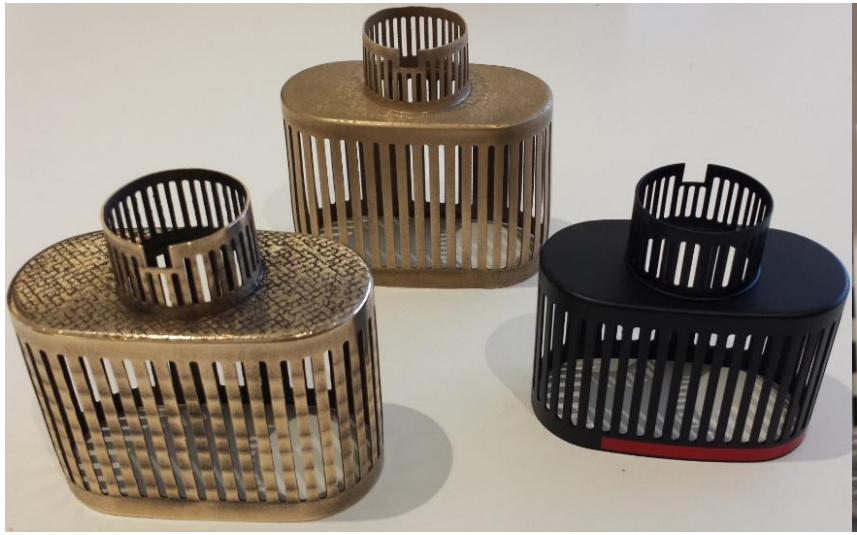
Advantages of Laser Metal Fusion

1. **No limits on parts design**
2. **Flexibility of production**
3. **Reduction of production time**
4. **Weight reduction of parts**
5. **Waste elimination**
6. **Independence from other suppliers**
7. **Know-how and design protection**
8. **No tools replacement**

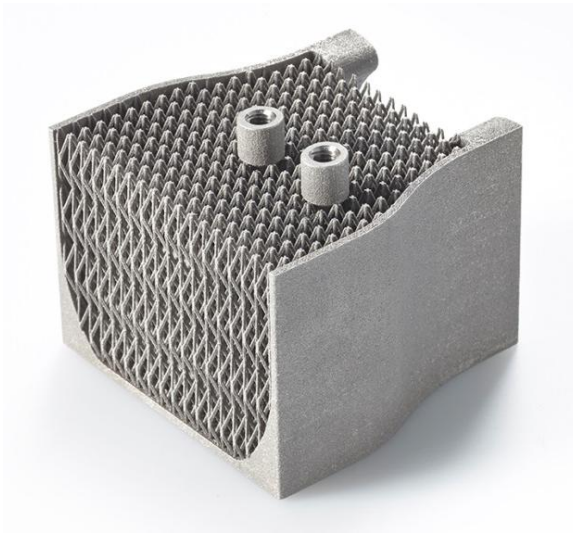
Examples of applications

Jewellery

Fashion Accessories



Examples of applications



Industry

Dental sector

THANK YOU FOR THE ATTENTION!

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