



# Value Added and Employment by Joining technology in Germany and in Europe

## Figures

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## Production values: devices and systems

in M.€

	D 2011	D 2010	EU27 2010
Welding, Brazing, Cutting	2.240	1.800	5.900
Thermal spray	18	17	59
Adhesive bonding	429	302	548
Mechanical fastening	143	89	279
Laser technology	281	228	301
Robot systems	689	444	829
<b>Total production</b>	<b>3.800</b>	<b>2.880</b>	<b>7.950</b>
<b>Gross value added</b>	<b>1.330</b>	<b>921</b>	<b>2.700</b>
<b>Employees</b>	<b>18.330</b>	<b>15.600</b>	<b>45.000</b>

## Production / value added: devices and systems 2010

**D 2.880 M.€**

**62%** Welding, brazing,  
cutting  
**15%** Robot systems  
**10%** Adhesive bonding  
**8%** Laser technology  
**3%** Mechanical fastening  
**2%** Thermal spray

**EU27 7.950 M.€**

**74%** Welding, brazing,  
cutting  
**10%** Robot systems  
**7%** Adhesive bonding  
**4%** Laser technology  
**4%** Mechanical fastening  
**1%** Thermal spray

### Production / value added: devices and systems 2010 in M.€

D	I	NL	F	GB	CZ	EU27
2.880	876	27	518	213	76	7.950
36%	11%	0,3%	7%	3%	1%	100%
2.551	1.169	29	323	160	---	7.504 (year 2007)
+ 13%	- 25%	+/- 0	+ 60%	+ 33%	---	+ 6% (by comparison 2010 / 2007)

### Production / value added: complementary goods and services 2010 in M.€

	D 2011	D 2010	EU27 2010
Consumables: Welding, Brazing, Thermal Spray	647	549	2.027
Adhesives	375	339	1.860
Mech. Fastening elements	207	182	552
Welding Gases	536	544	1.728
Envirom. Protection/ Health care	80	74	267
Inspection Technology	302	267	688
Training	179	179	417
<b>Total production</b>	<b>2.327</b>	<b>2.135</b>	<b>7.539</b>
<b>Gross value added</b>	<b>898</b>	<b>762</b>	<b>2.491</b>
<b>Employees</b>	<b>16.400</b>	<b>15.100</b>	<b>36.300</b>

## Production / value added: complementary goods and services 2010

**D 2.135 M.€**

26% Consumables  
25% Welding Gases  
**16% Adhesives**  
12% Inspection Technology  
8% Mech. fastening elements  
8% Training  
6% Environmental Protection /  
Health Care

**EU27 7.539 M.€**

27% Consumables  
**25% Adhesives**  
23% Welding Gases  
9% Inspection Technology  
7% Mech. fastening elements  
5% Training  
4% Environmental Protection /  
Health Care

### Production / value added: complementary goods and services 2010 in M. €

D	I	NL	F	GB	CZ	EU27
2.135	880	228	940	541	51	7.539
28%	12%	3%	12%	7%	1%	100%
2.106	1.797	382	1.514	1.193	---	12.843 (year 2007)
+ 1%	- 51%	- 40%	- 38%	- 55%	---	- 42 % (by comparison 2010 / 2007)

## Value added and Employment by Joining technology in Germany 2011

<b>Manufacturing</b>	<b>in M. €</b>	<b>Employees</b>
- Devices (direct)	1.330	18.330
- Devices (indirect)	1.200	18.000
- Complementary goods (direct)	898	16.400
- Complementary goods (indirect)	600	9.300
- Total value added	4.028	62.030
<b>Manufacturing joining technology</b>		



## **Value added by application**

### **Employees in welding technology and joining technology 2010**

- Welders
- Welding Inspection Personnel (including welding planning personnel)
- Welding Inspectors / DT and NDT Inspection
- Personnel in welding research
- Personnel in welding design / manufacturing
- Robot operators
- Welding trainers
- Joining related personnel (including adhesive bonding)

## Value added by application

### Employees in welding technology and joining technology 2010

	<b>D</b>	<b>EU 27</b>
Welders	156.000	647.000
Welding Inspection Personnel	15.400	65.400
Welding Inspectors	4.900	32.300
Research	650	2.400
Welding Design/Manufacturing	930	4.300
Robot operators	82.600	200.800
Welding trainers	840	6.100
Joining related personnel	71.200	165.900
<b>TOTAL</b>	<b>332.500</b>	<b>1.124.200</b>

  

	<b>105.320</b>	<b>311.300</b>
Welders	156.000	647.000
Welding Inspection Personnel	15.400	65.400
Welding Inspectors	4.900	32.300
Research	650	2.400
Welding Design/Manufacturing	930	4.300
Robot operators	82.600	200.800
Welding trainers	840	6.100
Joining related personnel	71.200	165.900
<b>TOTAL</b>	<b>332.500</b>	<b>1.124.200</b>

## Employees in welding technology and joining technology 2010

	<b>Welding</b>	contained in	<b>Joining</b>
<b>D</b>	261.300		332.500
<b>I</b>	156.000		211.000
<b>F</b>	88.500		103.200
<b>GB</b>	71.500		86.400
<b>NL</b>	31.900		38.300
<b>CZ</b>	19.300		32.000
<b>EU 27</b>	958.100		1.124.000

## Value added by application

### Employees in welding technology and joining technology 2010

#### Value added 2010

<b>EU 27</b>	<b>1.124.200</b>	<b>→</b>	<b>60 bn €</b>
D	332.500 (30%)		18,8 bn € (31%)
I	211.100 (19%)		12,4 bn € (21%)
F	103.200 (9%)		6,4 bn € (11%)
GB	86.400 (8%)		4,9 bn € ( 8%)
NL	38.300 (3%)		2,3 bn € ( 4%)
CZ	31.900 (3%)		1,3 bn € ( 2%)
other	320.900 (28%)		12,2 bn € (20%)

## Value Added and Employment by Joining Technology (Figure 12)

### Value added: devices and systems

<b>2010 D</b>	921 M.€ / 15.600 employees (1.200 M.€ / 18.000 employees)
<b>2011 D</b>	1.330 M.€ / 18.330 employees
<b>2010 EU</b>	2.700 M.€ / 45.000 employees

### Value added: complementary goods and services

<b>2010 D</b>	762 M.€ / 15.100 employees (600 M.€ / 9.300 employees)
<b>2011 D</b>	898 M.€ / 16.400 employees
<b>2010 EU</b>	2.491 M.€ / 36.300 employees

# Value Added and Employment by Joining Technology (Figure 13)

## Value added by application

2010 <b>D</b>	18.800 M.€ /	332.500 employees
2010 <b>EU</b>	60.000 M.€ /	1.124.000 employees

## Value added in total

2010 <b>D</b>	20.483 M.€ /	363.200 employees
2010 <b>EU</b>	65.191 M.€ /	1.205.300 employees

Devices / complementary goods in **D** 2010

921 / 762 M. € (leverage 1:1)

→ Application in **D** 2010

18.800 M. € (leverage 1:22)

Devices / complementary goods in **EU27** 2010

2.700 / 2.491 M. € (leverage 1:1)

→ Application in **EU27** 2010

60.000 M. € (leverage 1:23)

## Production values: devices and systems / cutting technology in M. €

	D 2011	D 2010	EU27 2010
Cutting	218	196	410
Laser technology	118	106	148
Robotics	26	20	38
<b>Total production</b>	<b>362</b>	<b>322</b>	<b>596</b>
<b>Gross value added</b>	<b>130</b>	<b>98</b>	<b>190</b>
<b>Employees</b>	<b>1.500</b>	<b>1.250</b>	<b>2.800</b>



## Production values: complementary goods and services / cutting technology in M. €

	D 2011	D 2010	EU27 2010
Welding Gases	280	280	660
Environmental Protection / Health Care	8	8	22
Inspection Technology	30	24	54
Training	20	22	38
<b>Total production</b>	<b>338</b>	<b>334</b>	<b>774</b>
<b>Gross value added</b>	<b>98</b>	<b>98</b>	<b>215</b>
<b>Employees</b>	<b>1.900</b>	<b>1.800</b>	<b>3.100</b>

Manufacturing of products and services generate 2010  
value added

in the amount of **1.683 M. €** / 196 M.€ (cutting technology)  
with **30.700 employees** in **D** / 3.050

in the amount of **5.191 M. €** / 405 M.€ (cutting technology)  
with **81.300 employees** in **EU27** / 5.900

## Value added by application

### Employees in cutting technology 2010

	<b>D</b>	<b>EU 27</b>
Welding Inspection Personnel	950	2.200
Welding Inspectors	190	850
Research	75	240
Welding Design / Manufacturing	120	380
Robot operators	1.200	2.800
Joining related personnel	980	2.200
<b>IN TOTAL</b>	<b>3.515</b>	<b>8.670</b>
<b>Value added</b>	<b>250</b>	<b>460</b>
(in M. €)		

Manufacturing with joining technology generates value added

in the amount of **18,8 Bn. €** / 250 M.€ (cutting technology)  
with **332.500 employees** in **D** / 3.515

in the amount of **60,0 Bn. €** / 460 M.€ (cutting technology)  
with **1.124.000 employees** in **EU27** / 8.670

## Value added in total

### D 2010

20.483 M.€ value added / 446 M.€ (cutting technology)  
362.730 employees / 6.915 Personal

### EU27 2010

65.191 M.€ value added / 865 M.€  
1.205.500 employees / 14.570 employees