

## Key statements about the study

### "Macroeconomic and sectoral value added by the production and application of joining technology in Germany and Europe in 2013"

Dipl.-Kulturwiss. Uta Tschakert  
DVS – German Welding Society

Status: November 2013

## Preliminary remarks

In advance of the world's premier fair (SCHWEISSEN & SCHNEIDEN), DVS - German Welding Society and EWF - European Federation for Welding, Joining and Cutting have, since as early as 2001, jointly commissioned studies which provide information about the economic significance of joining technology. Data relating to the production and the value added, including surveys about numbers of employees, is established. The scientific investigations take account not only of the **application of joining technology** but also of the **manufacture of joining technology** which includes the manufacture of devices, systems and complementary goods as well as the rendering of services. In 2013, the scientific investigations with the brief title of "Value added and jobs resulting from joining technology" encompass Germany as well as, for the first time, the whole of the EU 27 too. Central statements in the latest study are compiled in the key statements below.<sup>1</sup>

## 1. Manufacture of joining technology

1.1 With regard to the **production values** for 2010, the manufacture of joining technology indicates **total volumes** of around Euro 5 billion in Germany and of approx. Euro 15.5 billion in Europe. On the assumption that the world market volume amounts to at least four times the European market volume, this results in a worldwide total production value of Euro 62 billion. It roughly describes the market volume of the world's premier fair (SCHWEISSEN & SCHNEIDEN 2013).

---

<sup>1</sup> Data from 2011 and 2010 is available for Germany. The European study is based exclusively on data material from 2010.

1.2 The overall total of the **production values for the manufacture of joining technology** in Germany and Europe is composed of the production values for devices on the one hand and of the production values for complementary goods and services on the other hand. **For devices and systems**, the production value in Germany amounted to Euro 3.8 billion in 2011. This leads to a **gross value added** of Euro 1.3 billion which can be equated with the extra value created by the production. Around 18,000 employees contributed to this value added. In 2010, the production value in Germany amounted to Euro 2.9 billion and yielded a gross value added of Euro 0.9 billion, earned by around 15,600 employees. In the EU 27, the production value of devices and systems in 2010 was around Euro 8 billion and was associated with a gross value added of Euro 2.7 billion, earned by 45,000 employees.

1.3 **With regard to the complementary goods and the services**, the production values as well as the gross value added turn out to be similar. In Germany, the volumes of the production values were Euro 2.3 billion in 2011 and around Euro 2.1 billion in the previous year (2010). In 2011, this led to a gross value added of Euro 0.9 billion, earned by 16,400 employees. In 2010, the Germany-wide value added by the manufacture of complementary goods amounted to Euro 0.8 billion with around 15,000 employees. Compared with the value added figures from the manufacture of devices and systems, it may be concluded: One job in the manufacture of devices and systems safeguards one additional job dealing with the manufacture of complementary goods. However, this calculation does not work out in the European comparison since fewer employees collaborate in the manufacture of complementary goods than in the manufacture of devices and systems. As far as the EU 27 is concerned, complementary goods and services recorded a production value of around Euro 7.5 billion in 2010 which was associated with a gross value added of Euro 2.5 billion and 36,000 jobs.

1.4 As indicated by the latest study, devices and systems for welding, brazing/soldering and cutting are by far the most important factors in the production. 62 percent of the value added established in Germany (i.e. Euro 2.8 billion in 2010) is accounted for by such devices - in the EU 27, their share even amounts to 74 percent of the value added volume of Euro 8 billion.

1.5 The established production values also show: **In the Europe-wide comparison of the producing countries, Germany occupies first place with a 36-percent share of the manufacture of devices and systems.** It is followed by Italy (11 percent) and France (7 percent) which are ranked second and third respectively. In this case, Italy has lost considerable significance in comparison with the preceding study in 2005. Also with regard to the production of complementary goods, Germany is the leading manufacturer country with a 28-percent share.

## 2. Application of joining technology

The value added by joining technology results not only from the manufacture of devices, systems or complementary goods but also, in particular, from the **application of joining technology**. **In order to be able to calculate the corresponding values for Germany and Europe, the number of employees** in Germany and Europe who have something to do with technologies relating to welding and to the processes allied to it **is established first of all**. This subsequently permits calculations with regard to the value added.

2.1 Nearly 647,000 welders are employed in Europe alone. Together with other employees entrusted with joining technology activities, there are even 1.1 million employees Europe-wide. **Germany has 156,000 welders. That corresponds to a 24-percent share of the total number of welders in the EU 27**. After adding the other employees who have something to do with welding and joining technology activities Germany-wide, this results in a total number of 332,500 full-time-equivalent employees.

2.2 **A value added of around Euro 18.8 billion is associated** with the 332,500 employees in Germany who deal with the **application of joining technology**. **This corresponds to eleven times the value added by the manufacture of joining technology**. Europe-wide, the 1.12 million employees earn a value added of around Euro 60 billion - Germany alone contributes one third to this. With 211,100 employees and a value added of Euro 12.4 billion, Italy is ranked second with a 19-percent share. **It is noteworthy that, in the European comparison, the value added ratio between the manufacture and application of joining technology (a fourteen-fold rise) even exceeds the German relation**.

## 3. Overall results

In relation to 2010, the balance of the "value added by joining technology" is shown to be as follows:

In Germany, the manufacture of devices and systems yields a value added of Euro 921 million, earned by 15,600 employees. In addition, the manufacture of complementary goods leads to a value added of Euro 762 million and 15,100 employees. Another Euro 18.8 billion and 332,500 employees all in all from the application of joining technology increase the balance to an overall total of Euro 20.5 billion and 363,200 employees.

In Europe, a value added of Euro 2.7 billion and 45,000 employees resulting from the manufacture of devices and systems, Euro 2.5 billion and 36,300 employees resulting from the manufacture of complementary goods as well as Euro 60 billion and 1.12 million employees add up to an overall balance of a value added of Euro 65.2 billion and 1.2 million employees.

Since data from 2011 is also available for Germany, it is possible to note a distinct rise in the manufacture too: With Euro 1.3 billion and 18,330 employees resulting from the manufacture of devices plus Euro 898 million and 16,400 employees resulting from the manufacture of complementary goods, this adds up to the total value added of Euro 2.2 billion in 2011 and no fewer than 34,700 employees.

#### 4. Conclusion

Just like the studies from the previous years, the value added study in 2013 also proves the significant role of joining technology in the macroeconomic context. The figures and the results show what great influence joining technology as a cross-sectional technology exerts on the economic development of the individual countries. However, the statistical evaluation of the data also shows that the majority of the economic value added is created not by the manufacture of joining technology but instead by its application. Here, there is close intermeshing with the activities of DVS which takes comprehensive account of joining technology applications within the framework of its activities.

In research and technology, in education and certification, during its congresses and specialist events as well as due to the activities of its affiliated companies, DVS initiates, promotes and accompanies the developments in joining technology application. With its activities, the society is therefore directly involved in the value added by joining technology - even more so, it exerts a direct effect on the development of the value added and will thus guarantee the enormous economic significance of joining technology in the future too.