Economically welding in a healthy way

is a Collective Research Project, that started on October 2005 and will end on September 2008.

The metal working sector (turnover 970 billion a year) represents **8%** of the total EU business. Welding is the most important joining technique in this sector; there are about **730,000** full time and **5.5 million welding** related jobs in Europe. A threat for these jobs is that welding is moving to Asian low wages countries, leading to a decrease in European welding and welding related jobs represents **3%** each year (aprox. 165,000 people) . Another drawback is that welding has a great impact on health for it is physically high demanding leading to a high percentage of sick leave (yearly about 160 working hours per welder). These high sick leave costs are threatening the financial position of SMEs, endangering their competitiveness.

The **ECONWELD** project will stop the downward spiral in which welding is at the moment, by:

1 - Reduction of welding costs by 15-20% and improvement of production by 10-15%.

2 - Reduction of sick leave of welders of 50 % and improvement of production by 10-15%.

3 - Reduction of exposure to welding fumes of 30% for GMAW welding and 20 % for other processes.

The results obtained in ECONWELD will give SMEs in Europe a better competitiveness as well as a better image of the profession; both combined will keep welding activities and thus welding jobs in Europe in the long run.

Item	Technological objectives	Scientific objectives
WELDING COSTS AND PRODUCTIVITY	**TO-1** Reduction of welding costs by 15-20%. **TO-2** SME productivity will be increased by 20-30%.	**SO-1** Development of combinations of welding data, shielding gases, filler metals, aiming for an optimized weldability of the base metal, resulting in maximized welding speeds.
WELDING FUMES	**TO-3** Reduction of welding fumes in the welding environment, as well as reduction of welding fumes at the source	**SO-2** Solutions to reduce the amount of welding fumes at the source. **SO-3** Development of new welding torches with improved extraction capabilities. **SO-4** Development of a new exhaust system (independent moving arm).
REDUCTION OF SICK LEAVE AMONG WELDERS	**TO-4** Reduction of sick leave among welders by 50%, thus reducing European yearly sick leave costs by 400 million euros.	**SO-5** Development of simple ergonomic tools. **SO-6** Development of a fume detecting/warning sensor to be placed in welders helmets.
VIRTUAL WELDING	**TO-5** Availability of a decision making tool for virtual welding.	**SO-7** Development/programming of a virtual welding tool (ViWeld).
IMPROVING THE IMAGE WELDING PROFESSION	**TO-6** An increase of people who will choose the welding profession by 10%.	**SO-8** Development of leaflets and handbooks etc. for dissemination and training, based on integrated results of TO-3 and TO-4.

More information: **www.econweld.com**

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