



7th Steering Committee Meeting, Lisbon, November 27th and 28th 2008

WP3 “Sick leave among welders”

Economically welding in a healthy way

Contract No: COLL-CT-2005-516336

Name Luca Costa

Organisation IIS

Work package leader WP3

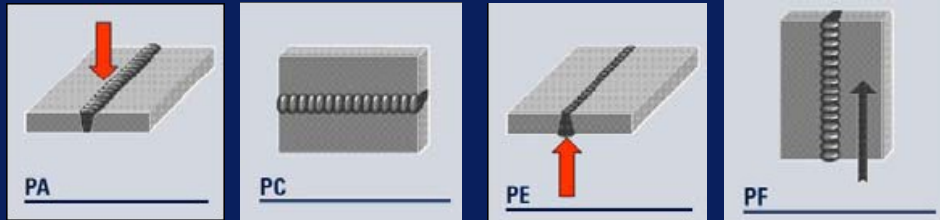


Status of IPS measurements

- **IPS Measurements have been executed subsequently to the activity carried on in the Del D 3.1 (PS Measurements)**
- **The measurements have been accomplished by DIMEL, with the contribution of other partners:**
 - IIS provided 5 welders
 - ALMOR provided 7 welders
 - In addition TNO will provide the appropriate software (to keep conformity with PS measurements - Del. 3.1)
- **In the IPS measurements it was made use of innovative tools (aspiring torch, small flexible arm, ventilated helmet)**

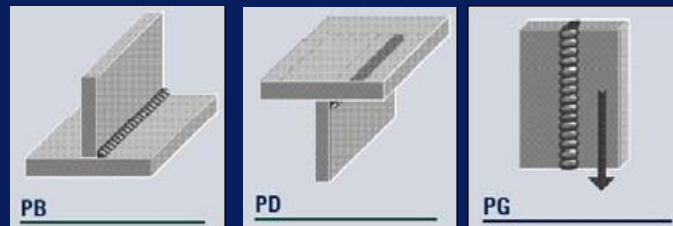
Welding position tested

- PA - Flat
- PC - Horizontal
- PE - Overhead
- PF - Vertical upwards

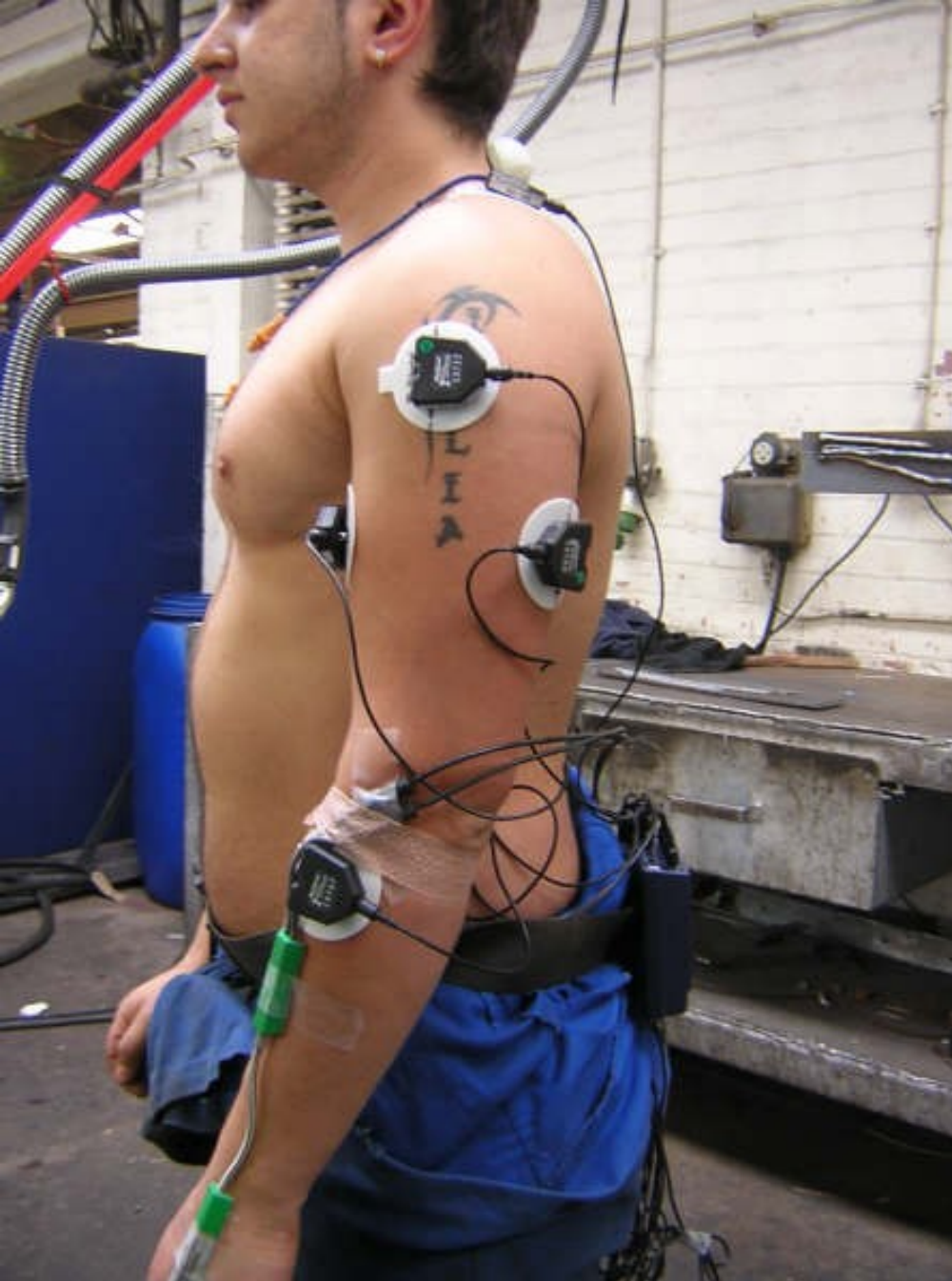


By means of the measurements executed in the Del D3.1 - PS it was ascertained the equivalence of the following positions:

- PB \equiv PA
- PD \equiv PE
- PG \equiv PF



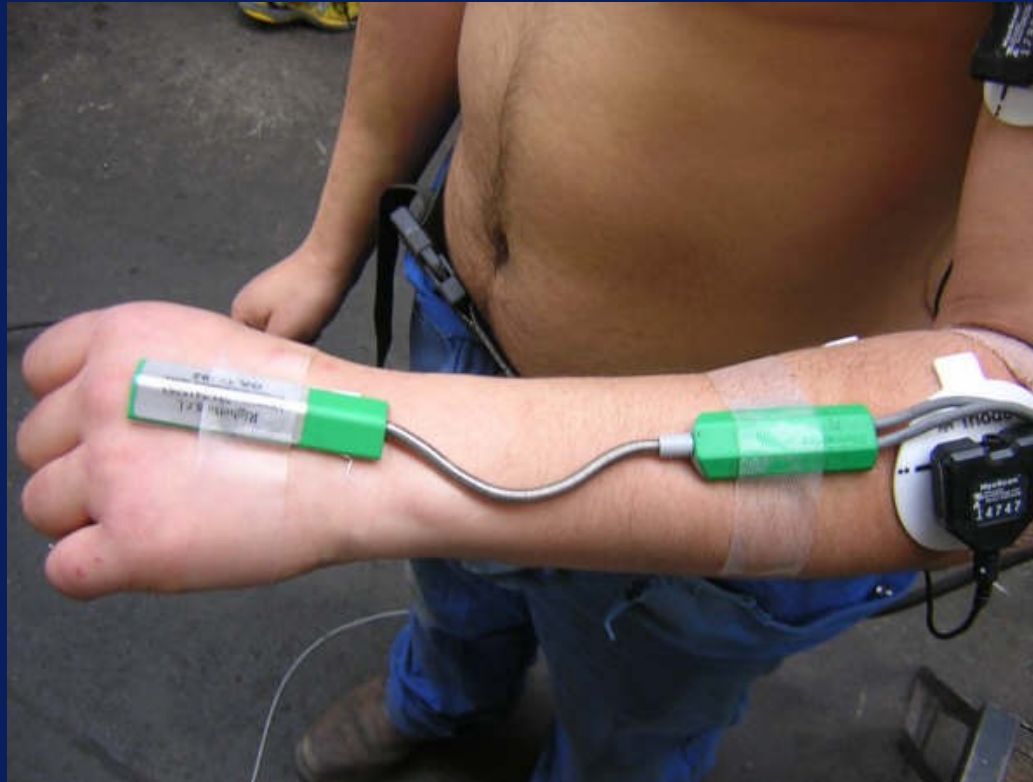
In addition the tests executed in the PS measurements allowed to point out exactly the best position for the placement of the electromiographic and electrogoniometric sensors



muscles checked by electromiography

- biceps brachii
- triceps brachii
- caput mediale
- trapezius pars descendens
- deltoid medius
- extensor carpi radialis longus
- flexor carpi radialis longus

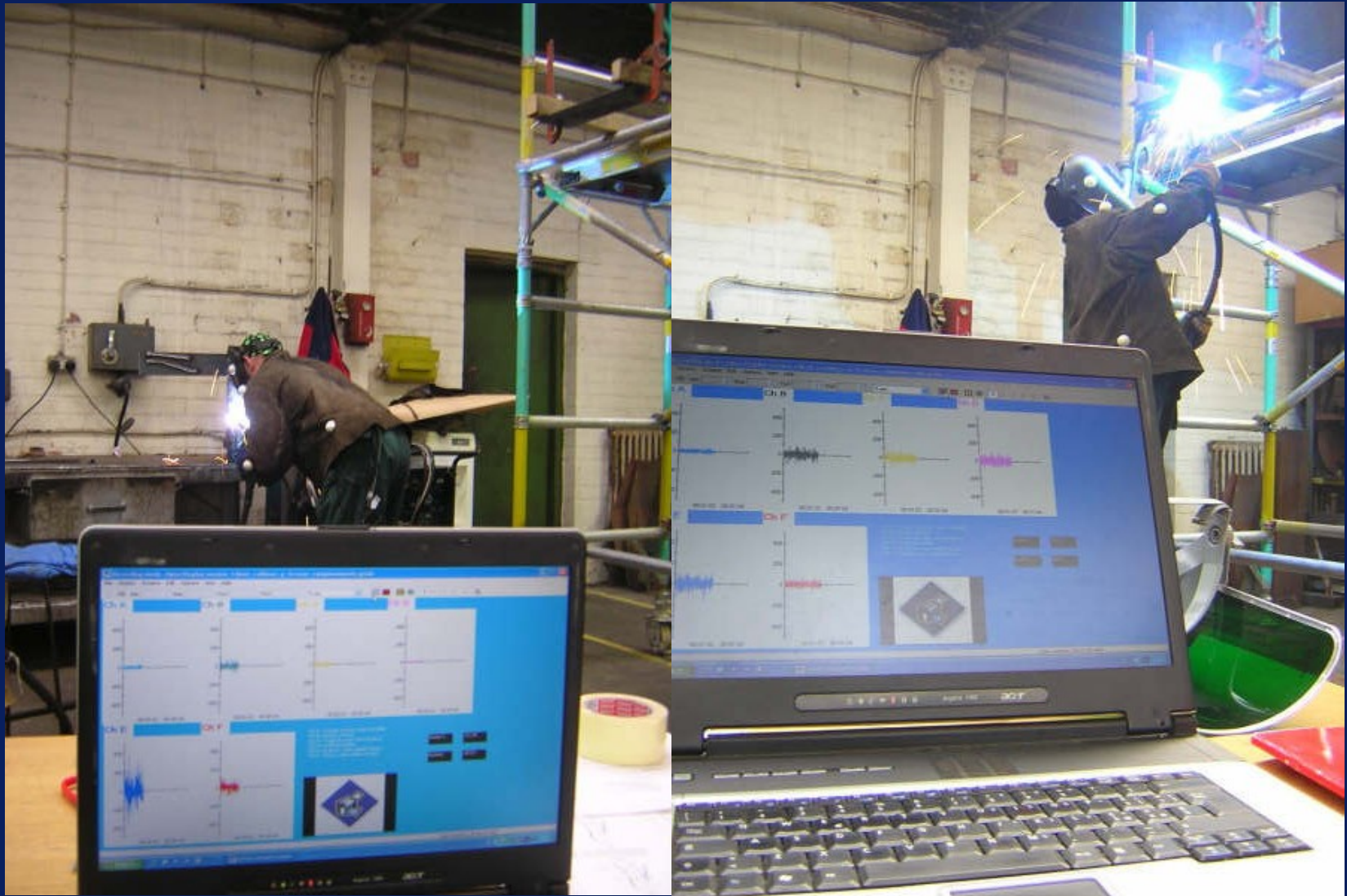
muscles checked by electrogoniometry



Electrogoniometry is used at the dominant hand side to measure:

- wrist flexion and extension
- ulnar and radial deviation of the wrist

Data acquisition



Use of the ventilated helmet and the flexible arm - 1



Use of the ventilated helmet and the flexible arm - 2



Next activity

- By means of the data elaborated obtained by TNO and through the comparison between IPS and PS conditions it will be prepared the final report concerning the del D3.7 “IPS Measurements”
- The patenting process of the ventilated welding helmet is in progress at the EPO by care of EWF

Timing of activities in work package 3 : M1-M42

Del.	Description	PM	Start	End	Del. Date
3.1	Analysis of current productivity and health situation of welders (PS)	4	5	9	18
3.2	Guidelines for ergonomical welding shop floor design	14,75	5	15	28
3.3	Design of smart helmet with optimized air flow system	16,6	10	18	26
3.4	Design of new ergonomical welding tools	11	12	19	30
3.5	Prototype of smart helmet	7,9	12	22	30
3.6	Prototype of ergonomic tools	5	12	26	32
3.7	IPS measurements	0,75	27	30	40



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42			
										1	2	3	4	5	6	7	8	9	0	1	2	3	4	5																		0	1	2
10/05	11/05	12/05	01/06	02/06	03/06	04/06	05/06	06/06	07/06	08/06	09/06	10/06	11/06	12/06	01/07	02/07	03/07	04/07	05/07	06/07	07/07	08/07	09/07	10/07	11/07	12/07	01/08	02/08	03/08	04/08	05/08	06/08	07/80	08/08	09/08	10/08	11/08	12/0/8	01/09	02/09	03/09			



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