



AUTOMAZIONE: LA FIGURA PROFESSIONALE DELL'INGEGNERE

February 20, 2020



SAPIENZA
UNIVERSITÀ DI ROMA

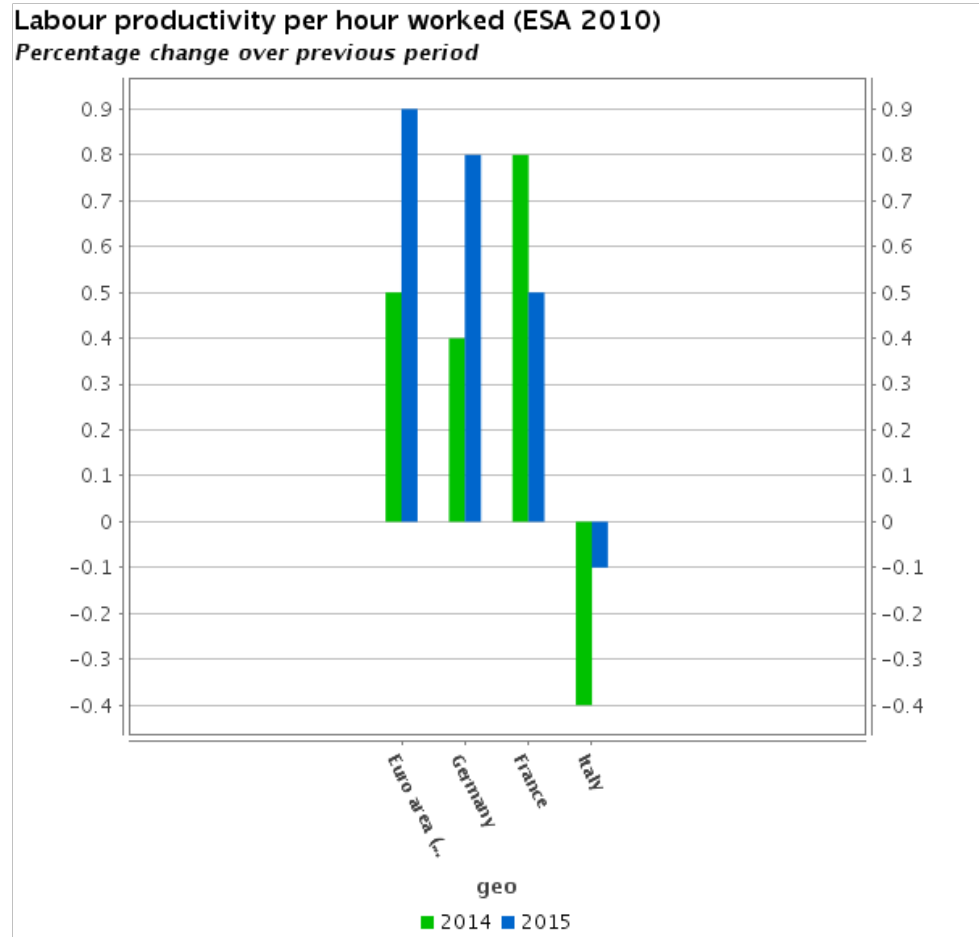


A.N.I.P.L.A.
ASSOCIAZIONE NAZIONALE
ITALIANA PER L'AUTOMAZIONE

We master the best and most
widespread communication interface



This is about you



Unemployment rates of the population aged 25-64 by educational attainment level [TPS00066]

Source of data: Eurostat

		Table Line Bar Map						
↓↑	TIME	2012↓	2013↓	2014↓	2015↓	2016↓	2017↓	2018↓
GEO	↓							
Euro area (19 countries)		17.9	19.4	19.2 (b)	18.0	16.9	15.6	14.1
Germany (until 1990 former territory of the FRG)		12.7	12.3	12.0 (b)	11.4	10.0	9.2	8.5
Italy		12.2	14.4	15.2 (b)	14.2	14.3	14.3	13.5
Switzerland		8.2	8.8	9.2 (b)	9.3	9.8	8.5	8.4

The Human Capital Report 2016



Italy (35) is held back by a low youth labour force participation rate (123rd) and high youth unemployment rate (122nd) for its 15-24 Age Group pillar, and scores poorly on the quality of its on-the-job staff training (119th). The country does, however, perform rather better on the secondary enrolment and basic education survival rates of its younger 0-14 age group as well as on the skill diversity of its graduates.

Expat statistics

Cittadini italiani iscritti all'AIRE nell'ultimo anno per solo espatrio per genere, classi di età e incidenza. Valori assoluti e percentuali. Anno 2016.

Età	Sesso		Totale	% su totale	% Femmine su tot	% Maschi su tot
	Femmine	Maschi				
0-9	6.658	7.149	13.807	12,8	48,2	51,8
0-14	2.820	3.026	5.846	5,4	48,2	51,8
15-17	1.298	1.433	2.731	2,5	47,5	52,5
18-34	17.930	21.480	39.410	36,7	45,5	54,5
35-49	10.986	16.706	27.692	25,8	39,7	60,3
50-64	4.302	7.169	11.471	10,7	37,5	62,5
65-74	1.747	2.189	3.936	3,7	44,4	55,6
75-84	1.017	982	1.999	1,9	50,9	49,1
85+	399	238	637	0,6	62,6	37,4
Totale	47.157	60.372	107.529	100	43,9	56,1

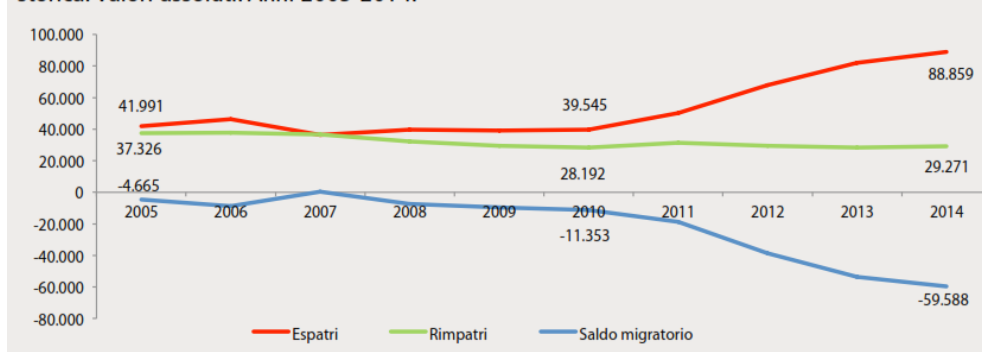
Fonte: Migrantes-Rapporto Italiani nel Mondo. Elaborazione su dati AIRE.

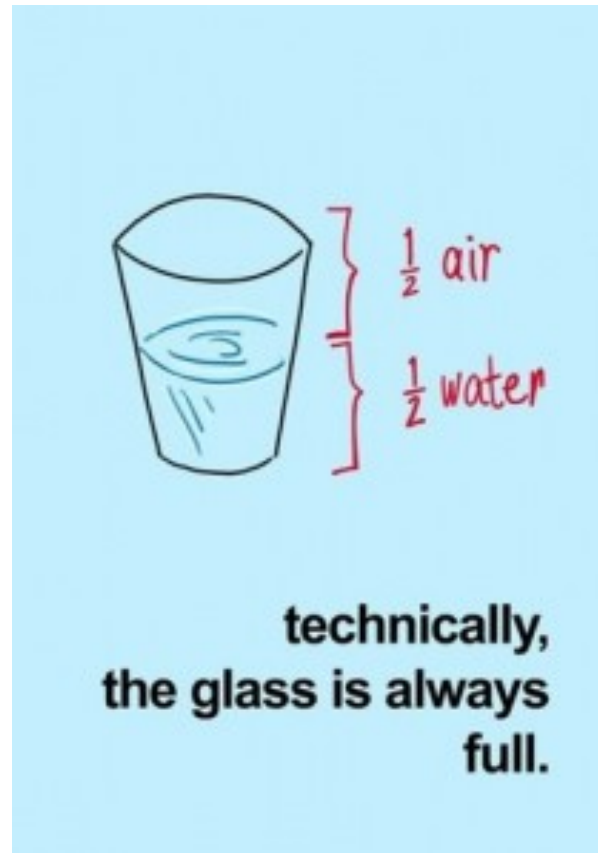
Cittadini italiani iscritti all'AIRE per solo espatrio, per i primi 15 paesi di residenza e genere. Valori assoluti. Anno 2016.

Paese	Totale	Femmine	Maschi	Regione	Totale	Femmine	Maschi
Germania	16.568	7.309	9.259	Lombardia	20.088	8.566	11.522
Regno Unito	16.503	7.321	9.182	Veneto	10.374	4.605	5.769
Svizzera	11.441	4.808	6.633	Sicilia	9.823	4.387	5.436
Francia	10.728	5.075	5.653	Lazio	8.436	3.721	4.715
Brasile	6.046	2.616	3.430	Piemonte	8.199	3.638	4.561
Altri Paesi	46.243	20.028	26.215	Altre regioni	50.609	22.240	28.369
Totale	107.529	47.157	60.372	Totale	107.529	47.157	60.372

Fonte: Migrantes-Rapporto Italiani nel Mondo. Elaborazione su dati AIRE.

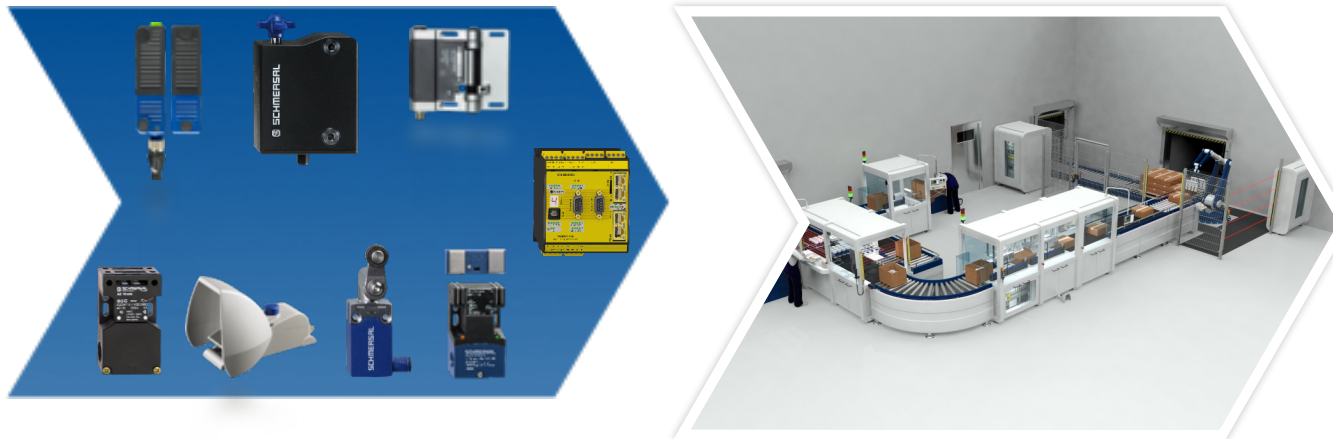
Iscrizioni, cancellazioni anagrafiche da e per l'estero e saldo migratorio di cittadini italiani. Serie storica. Valori assoluti. Anni 2005-2014.








We «do» interesting things

From components manufacturer to industry-oriented solution provider



- Extensive product program (with more than 25.000 products) as a basis for machine safety systems and solutions
- Support from initial contact to installation and commissioning:
 - Advice in selecting standard-compliant protective devices
 - Safety analysis & hazard assessments
 - Design and implementation of safety solutions

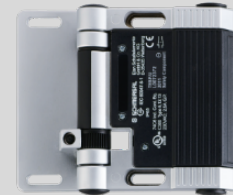
Safety products	Safety solutions	Safety services / tec.nicum
		
Guard door monitoring	Elevators and escalators	academy: knowledge transfer
Optoelectronic safety devices	Packaging	consulting: consultancy services
Command devices with safety function	Food	engineering: technical project planning
Safety-oriented tactile safety guards	Machine tools	integration: execution and assembly
Safe signal processing	Heavy industry	
Command devices and indicator lights	Automobile and automotive	
AS-Interface Safety at Work		
EX switchgear		



Safety switches with separate actuator



Position switches



Safety switches for hinged safety guards



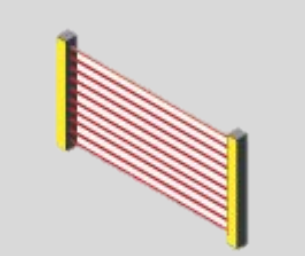
Safety sensors



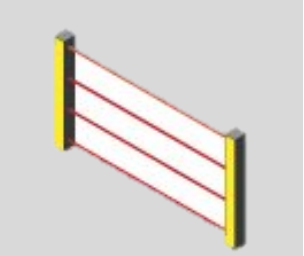
Solenoid interlocks



Door-handle actuators



Safety light grids

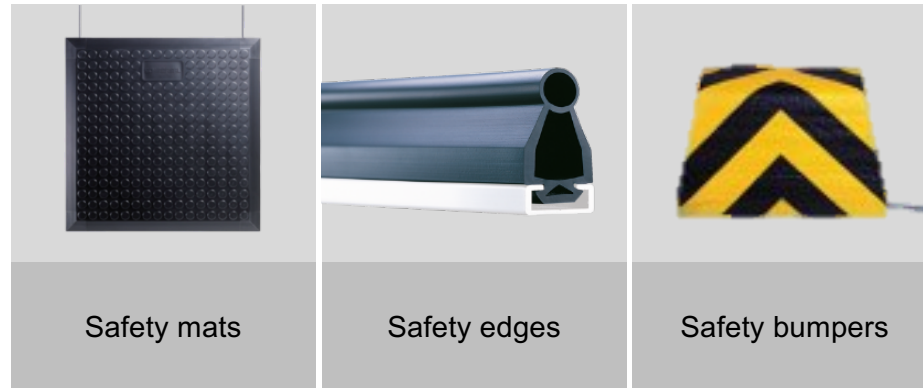


Safety light curtains



Safety light barriers

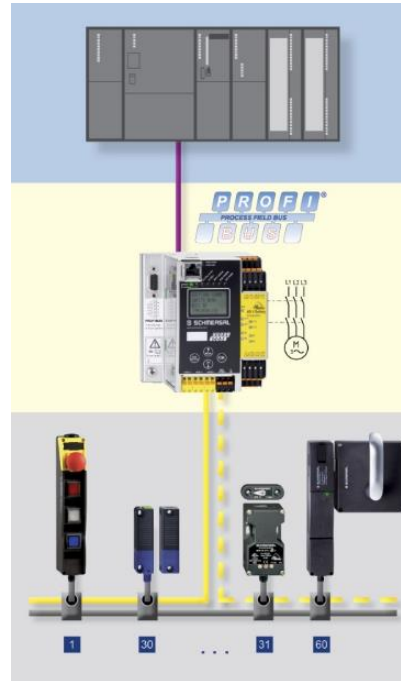




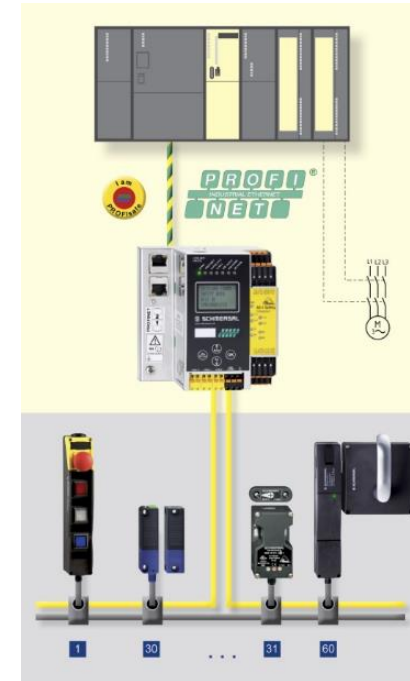
			
Programmable safety control systems	Compact safety control systems	Safety relay modules	Output expander modules
			
Input expander modules	Fail-safe standstill monitors	Fail-safe delay timers	Connection to higher-level control systems



Safety systems AS-Interface Safety at Work



Master-monitor combinations
("Safety separated")



Safety gateways
("Safety integrated")

Safety products ATEX switchgear



Ex guard locking devices



Ex switchgear



Ex position switches



Ex safety sensors



Ex pull-wire emergency stop switches



Ex command and signalling devices

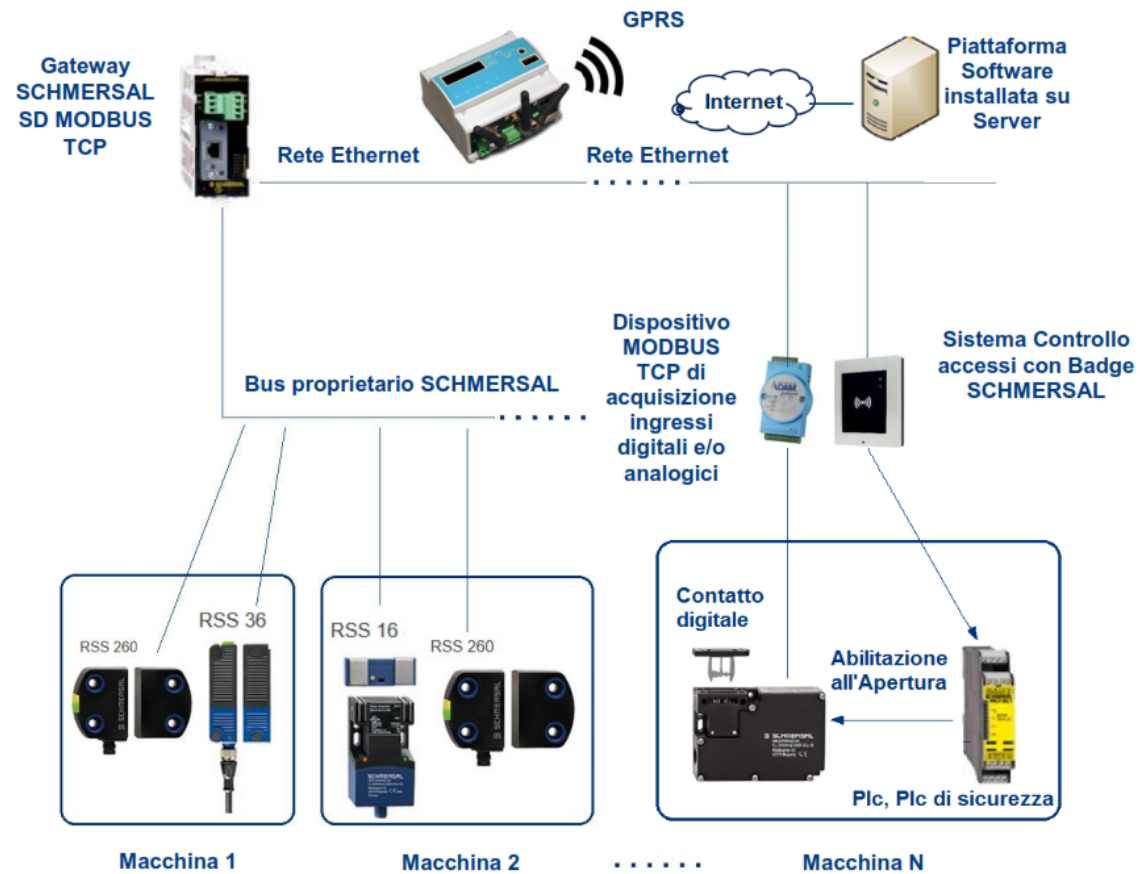


Ex safety-monitoring module



R&D

Industry focus 4.0:



Industry focus
4.0:



Industria 4.0: Le tecnologie abilitanti



Industry focus LIFT/automation:

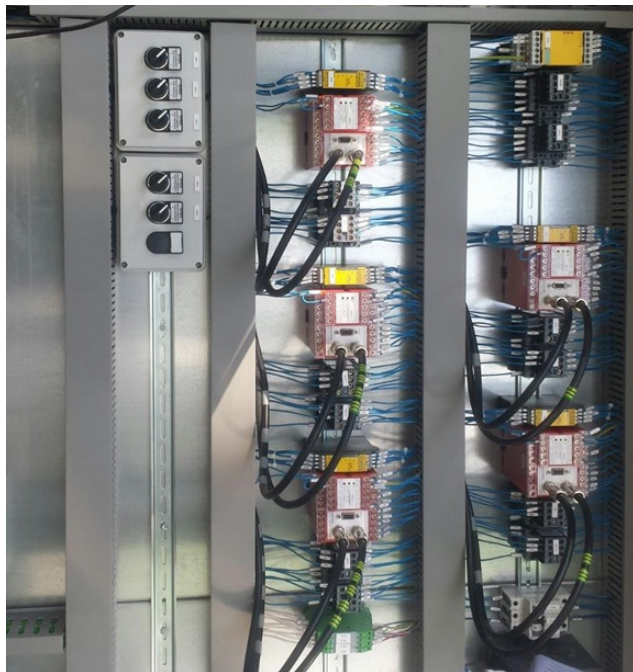
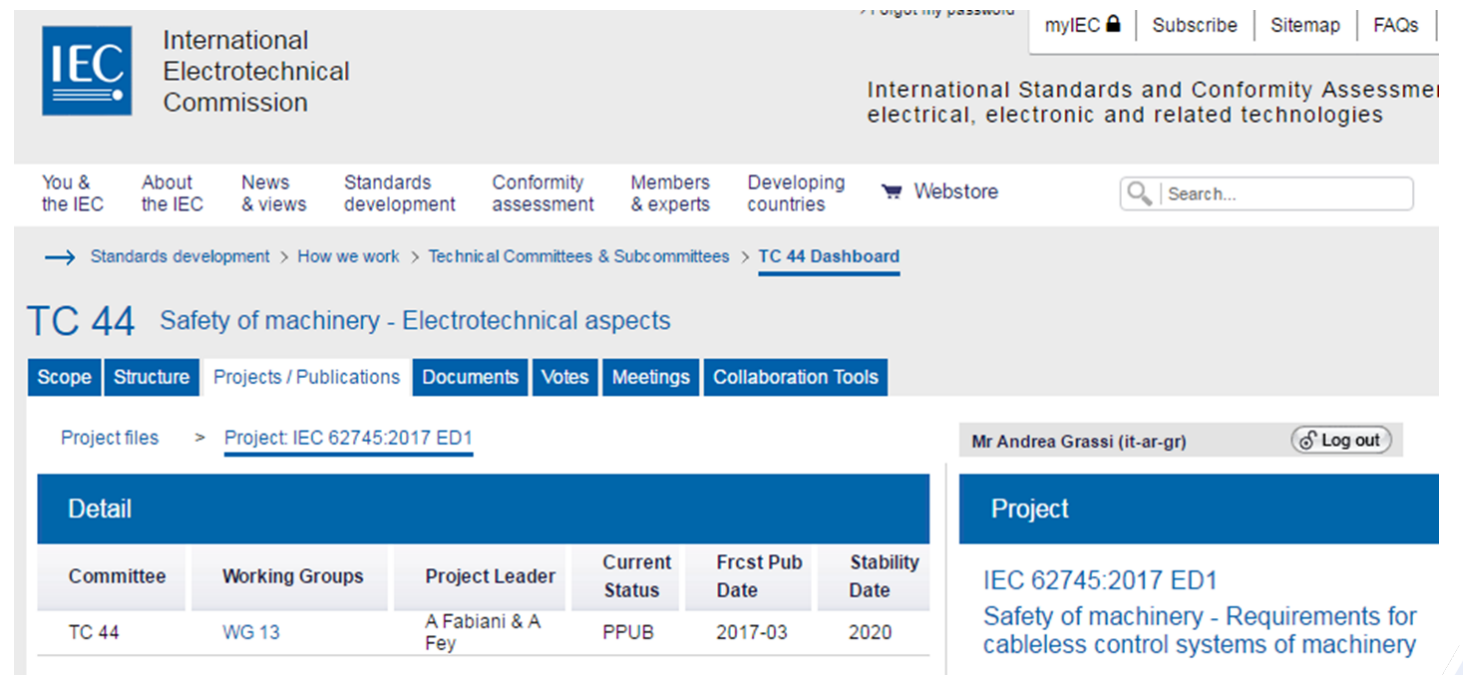


We «do» useful things

Tec.nicum



R&D: Normative per la sicurezza

International Electrotechnical Commission

International Standards and Conformity Assessment electrical, electronic and related technologies

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→ Standards development > How we work > Technical Committees & Subcommittees > **TC 44 Dashboard**

TC 44 Safety of machinery - Electrotechnical aspects

Scope | Structure | Projects / Publications | **Documents** | Votes | Meetings | Collaboration Tools

Project files > **Project: IEC 62745:2017 ED1**

Mr Andrea Grassi (it-ar-gr) [Log out](#)

Detail					
Committee	Working Groups	Project Leader	Current Status	Frcst Pub Date	Stability Date
TC 44	WG 13	A Fabiani & A Fey	PPUB	2017-03	2020

Project

IEC 62745:2017 ED1
Safety of machinery - Requirements for cableless control systems of machinery

The safety challenge

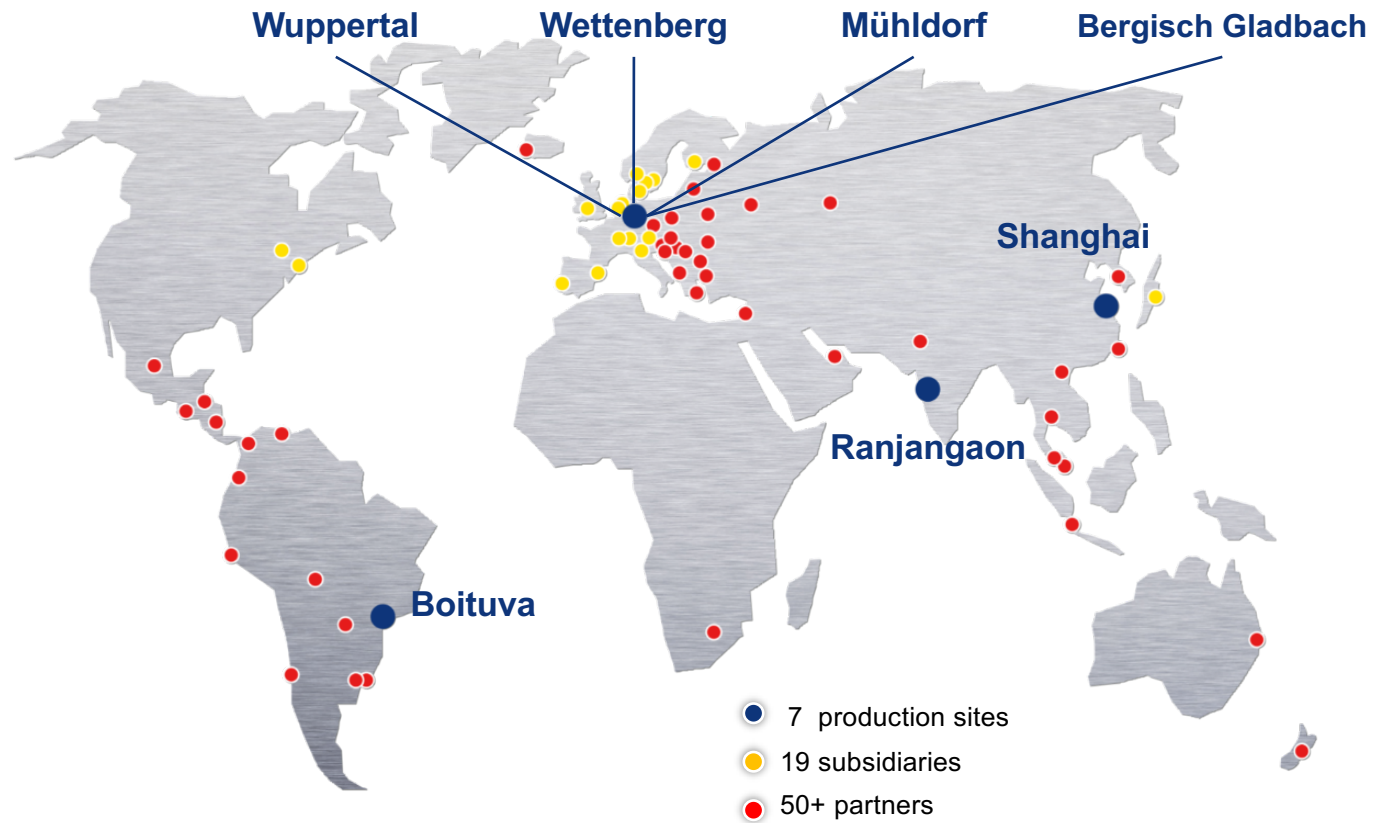
Hand trapped in between to the rolling machine
during shell plate pre-bending

- both victim's hands holding and push the small piece of plate support while adjusting/realignment the shell plate for pre-bending

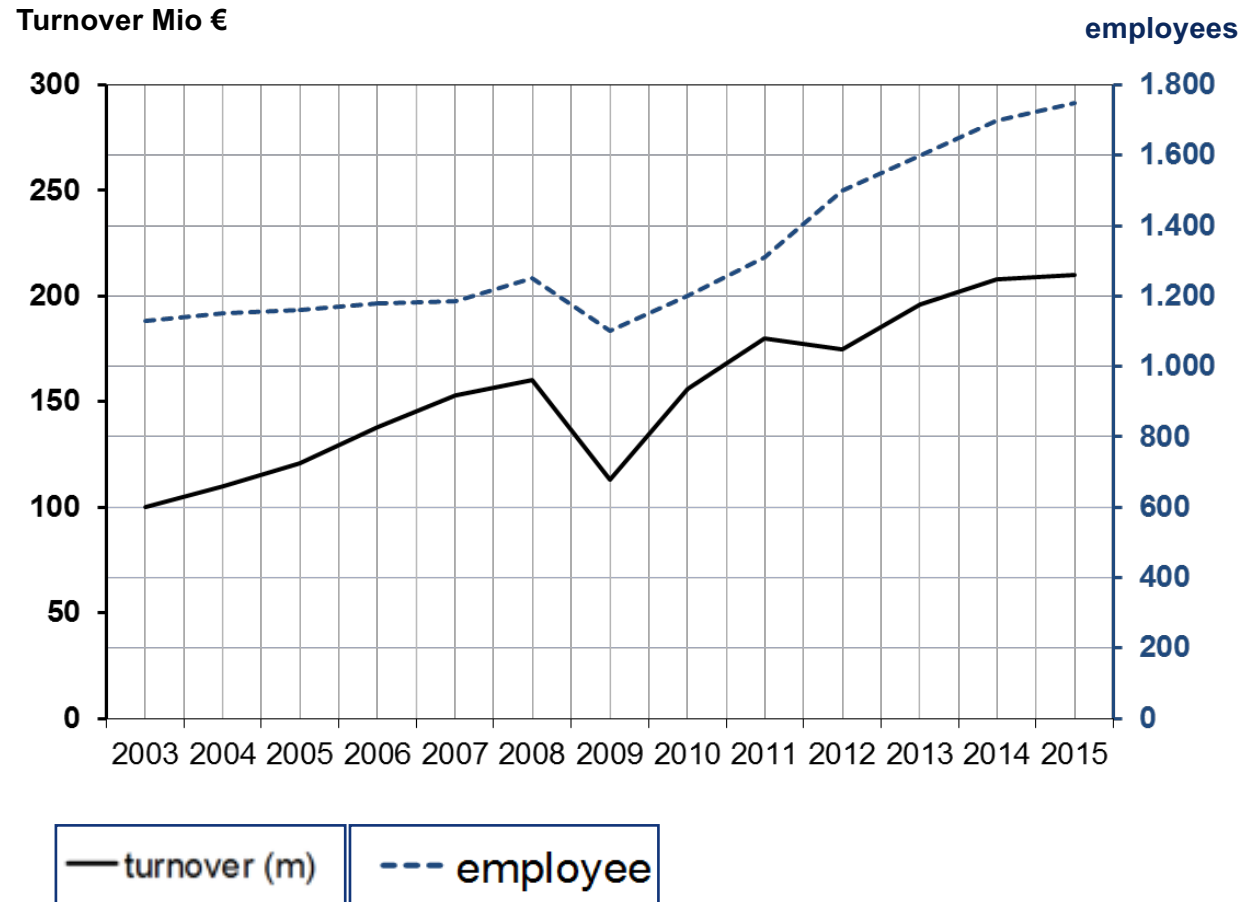


We «do» those things all over the world

Sites



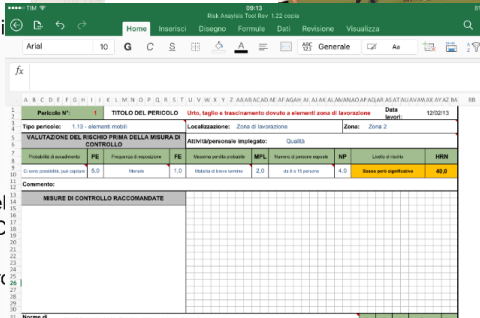
We succeed in «doing» this !



We «do» those things our own way

Schmersal hospital
agorni.a@schmersal.it, Bono, Daniela, De Iiddo,...

senore + logica (psc) possibile raggiungere il PL e (fino a PL e), dipende dal numero di operazioni, verificare la compatibilità elettrica (tensione e corrente) tra sensore e psc (e necessario controllare che soddisfatti i requisiti della iec [60947-5-3](#)). Non ci sono problemi per quanto riguarda guasti meccanici, mentre i guasti elettrici sono diagnosticati dal psc se compatibile e configurato correttamente. Se si utilizza NO+NC e meglio, altrimenti è possibile 2 NC, se usa il modello 12 deve essere usato NO e NC per il circuito di sicurezza ridondante (psc), mentre l'altro NC solo per segnalazione. Sensore codificato livello di codifica basso. Se vuole con

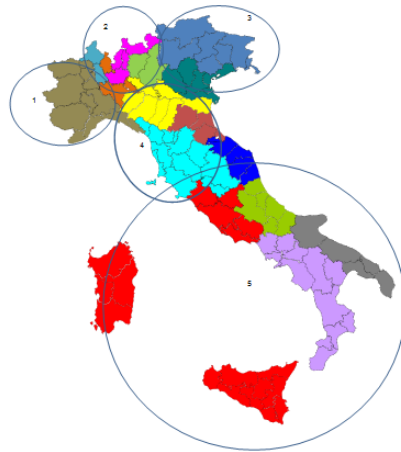


Particella N°	TITOLO DEL PERICOLO	Utile, taglio e trascinamento dovuto a elementi zona di lavorazione	Data
1.13	elementi mobili	Localizzazione: Zona di lavorazione	Zona 2
VALIDAZIONE DEL RISCHIO PRIMA DELLA MISURA DI CONTROLLO			
Probabilità di accadimento	FE	Esposizione di esposizione	FE
Gravità	5.0	Minore con alta probabilità	MPL
Controllabilità con misure	1.0	Mancato o cattivo rispetto	NP
Commento:		4.0	4.0
MISURE DI CONTROLLO RACCOMANDATE			



Having said that

We adapt organization to people !



Traditional office buildings

Brescia

Novara

Modena

+ Home offices !

Whom we hired in the last years:

Graduates in
Physics, Engineering, Languages, Political science
Undergraduates in Electronics,
Junior High school,

Staffed as:



Write to risorseumane@schmersal.it

Reference: ANIPLA 2020

Constantly open positions in German Headquarter
@ <http://www.schmersal.com/karriere>



The screenshot shows the Schmersal Jobportal website. At the top right, there is a language selector 'Sprache' and the Schmersal logo with the tagline 'Safe solutions for your industry'. Below the logo is a navigation menu with links: Home, Unternehmen, Produkte, Service, Presse, Karriere, Termine, and Kontakt. A search bar is also present.

The main banner features a group of five smiling professionals in business attire. The text on the banner reads: 'Willkommen auf Ihrem Schmersal Jobportal'.

Below the banner, the page is divided into several sections:

- Aktuelle Stellenangebote**: A sidebar menu with options for 'Ausbildung', 'Schüler und Studenten', 'Unsere Leistungen', 'Kontakt', and 'Schmersal Aktiv'.
- Wir bieten Sicherheit**: A section titled 'Für unsere Kunden und Mitarbeiter' with the text: 'Maschinensicherheit ist die Kernkompetenz der Schmersal Gruppe. Wir sorgen dafür, dass Mensch und Maschine sicher zusammen arbeiten. In diesem anspruchsvollen Aufgabengebiet sind wir der Kompetenzführer. Und wir wachsen. In den kommenden Jahren haben wir viel vor. Um unsere ehrgeizigen Ziele zu erreichen, werden wir uns auch personell verstärken. Deshalb suchen wir neue Kolleginnen und Kollegen und engagieren uns in der -> Ausbildung. Was erwartet Sie bei uns? In jedem Fall eine abwechslungsreiche Tätigkeit und individuelle Entwicklungsmöglichkeiten in einem kerngesunden, inhabergeführten mittelständischen Unternehmen. Und ein sicherer Arbeitsplatz mit einer erfüllenden Aufgabe: Unsere Mitarbeiterinnen und Mitarbeiter tragen dazu bei, die Arbeitswelt weltweit sicherer zu machen.'
- Fakten**: A box containing statistics: 'ca. 1.750 Mitarbeiter in über 20 Ländern', 'In 60 Nationen vertreten', and '7 Produktionsstandorte in Deutschland, Brasilien, China und Indien'.
- Kontakt**: A box with contact information for 'K.A. Schmersal GmbH & Co. KG', including the address 'Mödinghofe 30, 42270 Wuppertal', and phone/fax numbers.
- Unsere aktuellen Stellenangebote**: A grid of job listings with small images and text.
- Ausbildung bei Schmersal**: A section with a video player showing a woman wearing safety glasses, with the text 'Kaufmännische Ausbildung' and 'Ausbildung bei Schmersal'.

Thank you
for your attention!