

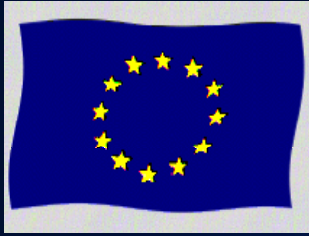
EMF Directive ...

Exposure of Workers to EMF
in the European Union:

Challenges and state of play

Georges HERBILLON

European Commission (DG EMPL/F4)



Summary

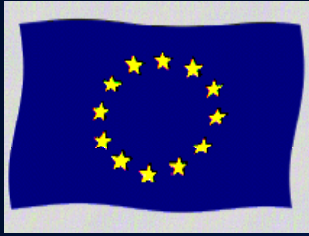
Part 1: Directive 2004/40/EC (*reminder*)

Part 2: Implementation problems?

Part 3: Work already done

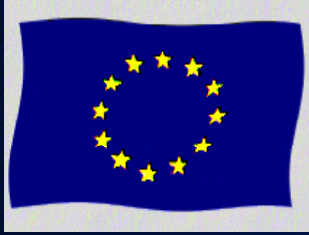
Part 4: The way forward & challenges

(actions & calendar)



Part 1

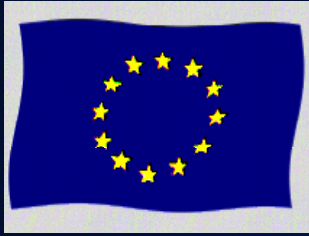
Directive 2004/40/EC



EU legislation for H&S at work

« *Framework directive* » 1989/391/EEC

- Responsibility on employers
- Ex-ante risk assessment mandatory
- Eliminate or reduce (all) risks
- Information, training and consultation of workers
- Appropriate medical surveillance



EMF Directive 2004/40/EC

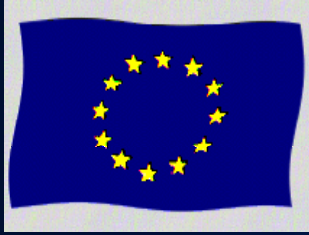
Results and Compromises :

- Article 1: “Aim and Scope”

“

....

- Risks due to **known short-term adverse effects** in the human body
- **It does not address the long-term effects**
- It does not address the risks resulting from contact with live conductors
- **Directive 89/391/EEC fully applies”**



EMF occupational exposure Directive

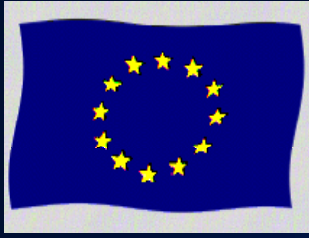
Results and Compromises :

- No exposure limit value set for static magnetic fields
- **Reinforcement of provisions relating to *information of workers***
- Reinforcement of provisions relating to *medical surveillance*
- **Regime of sanctions**
- **Review of situation after 5 years** (*Commission*)



Part 2

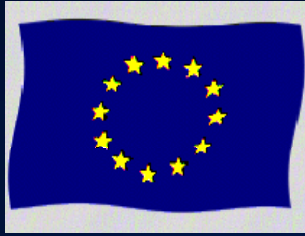
**Implementation
problems ?**



EMF Directive

Implementation problems?



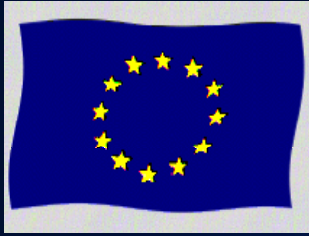


Electromagnetic Fields:

Exposure Limit Values in the directive = ICNIRP Basic Restrictions

Frequency range	Current density for head and trunk J (mA/m ²) (rms)	Whole body average SAR (W/kg)	Localised SAR (head and trunk) (W/kg)	Localised SAR (limbs) (W/kg)	Power density S (W/m ²)
Up to 1 Hz	40	–	–	–	–
1 - 4 Hz	40/f	–	–	–	–
4 - 1000 Hz	10	–	–	–	–
1000 Hz – 100 kHz	f/100	–	–	–	–
100 kHz – 10 MHz	f/100	0.4	10	20	–
10 MHz – 10 GHz	–	0.4	10	20	–
10 – 300 GHz	–	–	–	–	50

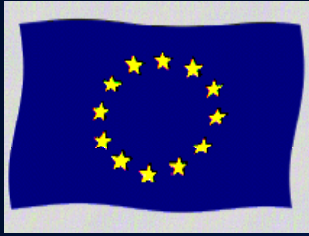
No ceiling values for Static Magnetic fields



EMF Directive

The specific case of MRI

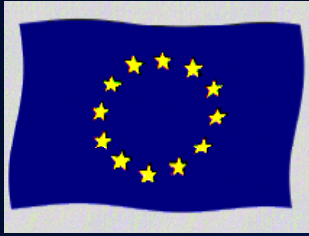
Magnetic Field (Frequency of)	Action Value (Magnetic flux density)	Exposure Limit Value Head & Trunk	Exposure Limit Value Whole Body (average SAR)	Exposure Limit Value Limbs
STATIC (0 Hz)	200 mT	None	None	None



EMF Directive

The specific case of MRI

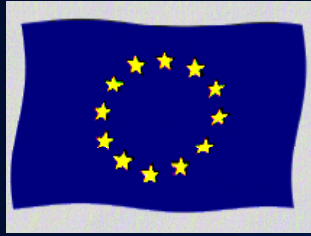
Magnetic Field (Frequency of)	Action Value (Magnetic flux density)	Exposure Limit Value Head & Trunk	Exposure Limit Value Whole Body (average SAR)	Exposure Limit Value Limbs
STATIC (0 Hz)	200 mT	None	None	None
Switched Gradient (ca 1000 Hz)	30.7 μ T	Current Density = 10 mA/m ²	None	None



EMF Directive

The specific case of MRI

Magnetic Field (Frequency of)	Action Value (Magnetic flux density)	Exposure Limit Value Head & Trunk	Exposure Limit Value Whole Body (average SAR)	Exposure Limit Value Limbs
STATIC (0 Hz)	200 mT	None	None	None
Switched Gradient (ca 1000 Hz)	30.7 μ T	Current Density = 10 mA/m ²	None	None
RF field (10-110 MHz)	1) 0.2 μ T & 2) S_{eq} = 10 W/m ² 3) I_C = 40 mA 4) I_L = 100 mA	SAR = 10 W/kg	SAR = 0.4 W/kg	SAR = 20 W/kg



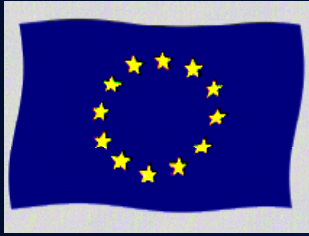
EMF Directive

Implementation problems?

Commission's actions:

- Comprehensive analysis of the situation
- Examine possible solutions with users (*all categories of workers, not only MRI*)
- Interrogate scientific community on possible readjustments of exposure limits **without reduction of workers' protection.**

NB: Directive 2004/40/EC foresees review after 5 years



Part 3

Work already done



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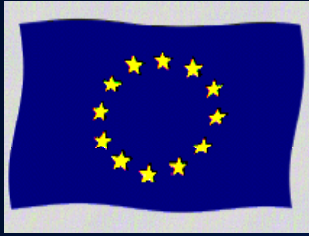
Work done

Legal domain

Step 1: *achieved !*

**Adoption of directive 2008/46/EC
of 23 April 2008
by EP and Council**

Step 2: **Preparation of a new substantial
proposal
on the basis of new & the most
recent elements**



EMF Directive

Work done

Technical domain

Action 1: Analyse « MRI » study (April 2008)

Action 2: call for tender for a study to support an Impact Assessment (2009)

Action 3: analysis of other recent studies and new ICNIRP recommendations

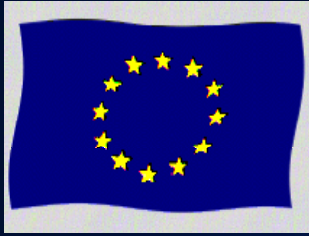
(« static » May 2009, « ELF » 2009 ?)

Action 4: discussions with social partners and stakeholders



Part 4

The Way forward & Challenges



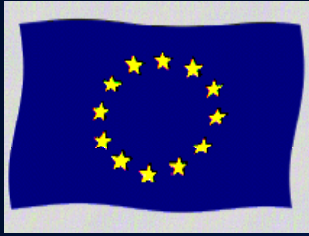
The way forward

Challenge 1: timing

Ideal plan:

**Commission proposal to
Council and EP**

adopted by end of April 2010 !

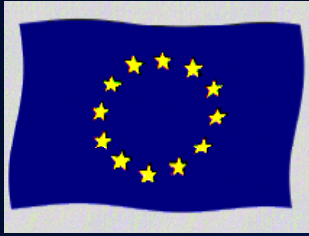


The way forward: ideal scenario

April 2010: Commission proposal

By April 2011 (?): new directive adopted
by EP and Council
(2011/XY/EC)

By April 2012 (?): new directive
transposed by Member
States



The way forward: Plan B

Later in 2010 : **Commission proposal**

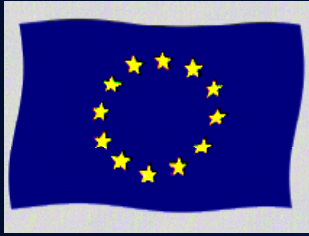
By April 2012: **new directive
must be adopted
by EP and Council
(otherwise 2004/40/EC
must be applied)**

After 04/2012: **new directive to be
transposed by
all Member States**



The way forward

Occupational exposure to EMF directive: planning																
Step	Year	2008			2009											
		10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Impact Assessment		Evaluation +selection +contract			Study											
				Roadmap			ISSG		ISSG				ISSG	Drafting and approval of IA		
1st consultation of social partners		Drafting			Approval+ launching					Results						
2nd consultation of social partners									Drafting	Approval+ launching				Results		
Opinion of the ACSH																Opinion
Meetings of the EMF Working Party		16/10			21/1			23/4							Proposal for opinion	
Consultations & Conference		Consultations Preparation												Conference		



The way forward

Challenge 2: to maintain appropriate protection of workers exposed to EMF during their work whilst enabling medical and industrial activities

- **No change:** directive 2004/40/EC applies
- **Non binding legislation:** political decision
- **Other alternatives:** exemption ? – derogation ?
– more flexible exposure limits ? –
combination binding/non binding tools ?

Let's find a WIN-WIN solution



EMF Directive for occupational exposure



*Thank you
for
your attention*

This paper was produced for a meeting organized by Health & Consumer Protection DG and represents the views of its author on the subject. These views have not been adopted or in any way approved by the Commission and should not be relied upon as a statement of the Commission's or Health & Consumer Protection DG's views. The European Commission does not guarantee the accuracy of the data included in this paper, nor does it accept responsibility for any use made thereof.