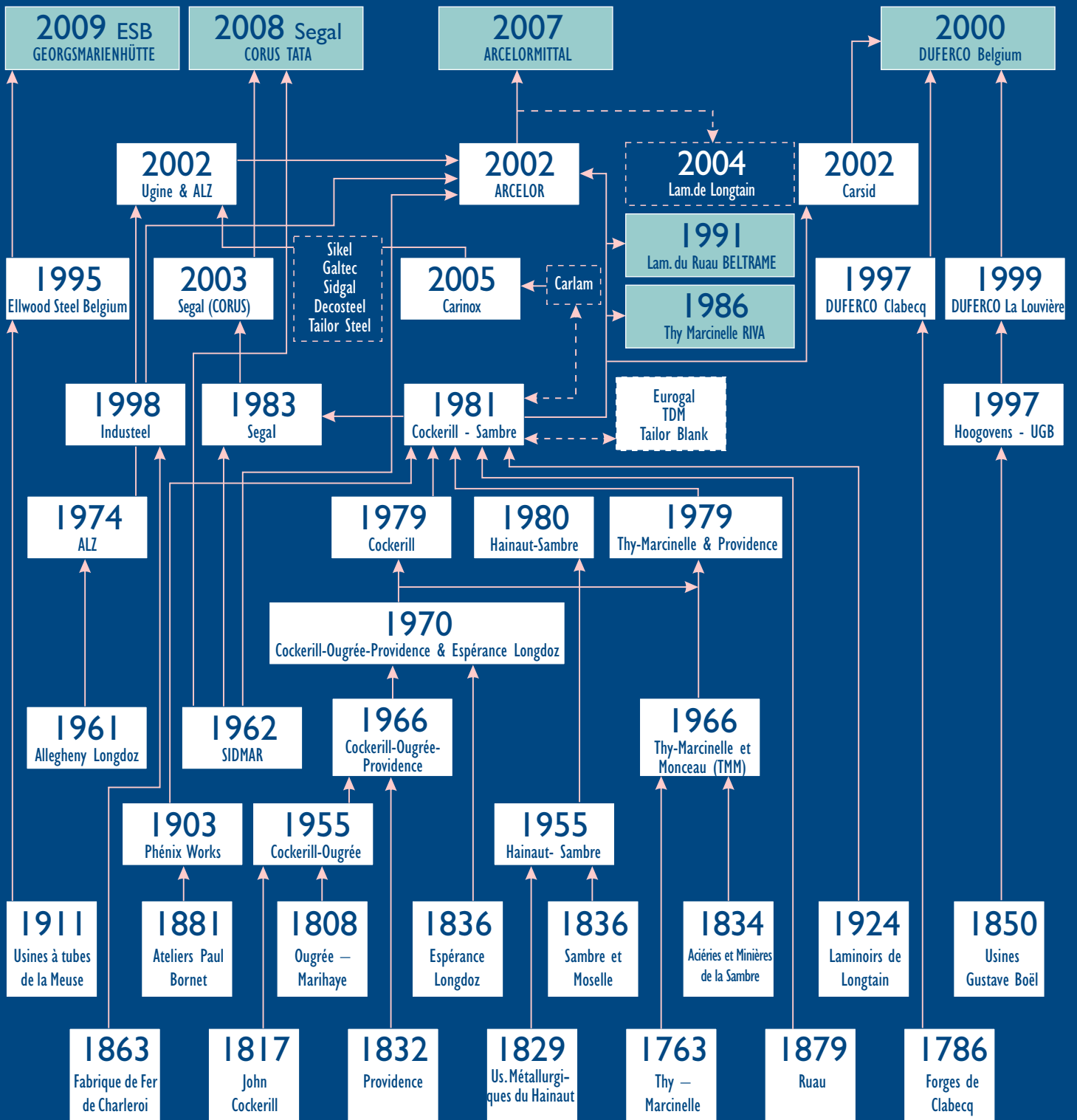


# The Belgian Steel Through the Years



# Social Affairs

## Active sectoral dialogue

In 2008, the social partners have been pursuing their active social dialogue approach to implement the measures agreed upon in the sectoral agreement for 2007-2008.

Thus, collective activities have been concretising the engagements concerning professional training and competence development as well as those focusing on Health & Safety at work:

- In May 2008, a supplemental model for training planning has been put at disposal of the social actors in the companies, without devaluing the locally available instruments which take into account their proper specificities,
- In autumn, a questionnaire "Well-Being at Work" has been launched as preparation for a diagnosis of the prevention policy of the companies concerning health and safety as well as for the exchange of best practices.

## Health & Safety at work

Optimizing health and safety at work as a prevention goal in order to avoid all accidents or occupational diseases is a constant priority in the steel companies. Reaching good security results makes it possible not only to fulfil an evident social and ethical engagement, but also to excel further in other matters (costs, quality, ...)

A performing policy unarguably has to integrate a security reflection concerning all activity processes in the companies

and has to involve all workers, including those of external companies.

## Competence development and professional training

Following interprofessional provisions, the steel sector annually analyses and evaluates the training efforts of the companies. The results of the enquiries in this context confirm that the steel companies amply reach the interprofessional goal (an overall effort of 1,9% of total wages):

- In 2007, the steel industry has spent on average 2,93% of the wages for training of its blue-collar workers and 2,15% for training of the payscale employees;
- In accordance with the engagements, the training efforts have been generalised and distributed to cover the training needs of all personnel, which can be noticed in the high participation rate, namely over 70% for blue-collar and white-collar workers.

TRAINING (PC104)



TRAINING (PC210)



# Production - Consumption

## First decline of world steel production since 1998

In 2008, global steel production was 1.326 million tonnes, against 1.351 million tonnes in 2007. This decrease of nearly 2% has put a sudden end to a decade of a strong 6,3% yearly growth. A quarter by quarter analysis reveals a very contrasting evolution of the production: increase during the first three quarters, followed by a fast slump in the fourth quarter. Even in China which stays by far the world's number one producer the activity at the end of the year went down by over 12%. In general, and in spite of the impact of the economic crisis, the emerging Asian economies have succeeded in raising their production levels over the year.

	2008 in Mt	2008/1999	2008/2007	IV08/IV07
EU27	168	8%	-4%	-26%
China	500	304%	1%	-12%
Japan	119	26%	-1%	-15%
USA	91	-6%	-7%	-39%
Russia	69	33%	-5%	-36%
India	55	127%	4%	0%
South-Korea	53	30%	4%	-6%
Brazil	34	35%	0%	-22%
World	1,326	68%	-2%	-19%

In Belgium, the 2008 crude steel production 10,7 million tonnes stayed at the level of the previous year. This was due to two elements: in 2007, a Charleroi blast furnace had to be shut down for refurbishment and in February 2008, the second Liège blast furnace had been relit. As decided in other countries, several facilities have been producing at slower pace or have been idled at the end of the year, resulting in a 38% decrease of the production in the fourth quarter.

## Strong impact of the economic crisis on steel demand in 2008

The degradation of the global economic situation has been heavily impacting the steel markets as from the end of the Summer of 2008. The construction, as well as the automotive

sector and mechanical engineering have been booking severe downturns, causing a heavy fall of steel consumption. Some regions have been affected harder than others but the globalisation of the economy has been rapidly internationalising the decline in the demand of steel products.

Globally, the apparent steel consumption of 2008 went down by 1,4% to 1.200 million tonnes. However, the consumption has still been increasing albeit at a significantly slower rhythm in the BRICs (Brazil, Russia, India and China). The weakness of the demand for steel has been most outspoken in the industrialised Western countries which fully underwent the effect of the economic crisis. E.g., in the United States the demand for steel fell by nearly 10%; in the EU 27, it dropped by over 8%.

## EU27 stays an open economic zone

For the third consecutive year, the EU27 had a trade deficit in finished steel products. However, this deficit has significantly gone down to 1,1 million tonnes, against 9,6 million tonnes of record year 2007. China, followed by Russia and Turkey stay the three main countries of origin of EU imports.

It has to be stressed that the EU27, even in this extremely difficult period, is staying an open area, without custom duties, and that the authorities have to stay vigilant concerning protectionist reflexes which recently tend to surface rapidly.

# Steel Promotion - Information

[www.infosteel.be](http://www.infosteel.be)



The Steel Information Centre aims to promote the use of steel in construction and infrastructures in Belgium and Luxemburg. It therefore is being supported by over 600 members mainly from the steel industry, construction firms, architecture and

study bureaus as well as the educational world.

The promotion activities of the Centre are based on four pillars:

## 1. Organisation of mediatised professional events:

- The Steel Construction Day 2008 gathered over 650 professionals in Brussels Expo. The fair and the seminars focused on the challenges of sustainable development for steel construction.
- The Steel Construction Contest 2008 celebrated its 10th anniversary with a record participation of 179 projects.
- The Students' Steel Award 2008 presented 21 projects of universities and colleges in Belgium and Luxemburg.
- Over 350 professionals discovered during project visits remarkable realizations in steel: the steel frame of the 'Museum aan de Stroom' in Antwerp, the university buildings of the KHBO (Katholieke Hogeschool Brugge-Oostende) in Bruges; the offices Frame 21 in Herentals and the "Centre Acier ArcelorMittal" in Flémalle.



## 2. Know-how transfer and design improvement:

The programmes of seminars and trainings have been organized in partnership with universities, steel companies, study bureaus, research centres and the European Commission.

Focus was put on the results of the most recent technical and scientific research projects.

- Seminars 'Fire Safety of Industrial Halls and Low-rise Buildings' in Mechelen and Namur.
- Seminars 'Dissemination of Fire Safety Engineering Knowledge' in Leuven and Louvain-la-Neuve.
- Seminars 'Human Induced Vibrations of Steel Structures' in Affligem and Gembloux.
- Seminar 'Valorisation of the state of the art to improve the

competitiveness of bridges in mixed materials and in steel' in Namur.

- The WISH Workshop in Asse-Kobbegem, dedicated to 'Workpack for Design of Steel House'.

## 3. Valorisation of the European network for steel promotion

The Steel Information Centre is one of the founding members of the European steel promotion network ISN (IPO Steel Network), grouping the European Steel Information and Promotion Centres (IPOs). In the context of a larger and more efficient dissemination of knowledge on steel applications, the Centre is creating a database with pictures and international projects, in collaboration with the Dutch centre "Bouwen met Staal".

For the moment, over 3.000 pictures, descriptions and technical details have been classified according to project typology. These documents are available on the Web thanks to a common European search engine.

## 4. Production and dissemination of technical information for steel construction:

- The magazine 'staal\_acier' presented detailed analysis of exemplary projects. The special issue on the actual 'recuperation' of the 1958 Expo buildings has been an overwhelming success with the professionals and highlighted the advantages of reuse and sustainability of steel structures.
- Website [www.infosteel.be](http://www.infosteel.be) trebled its visits to 10.000 a month.
- The Centre's public library has over 6.000 titles on steel construction.
- The Helpdesk offered free assistance to projects and answered 420 questions.

# Sustainable Development

## Climate Change

In December 2008, the EU has reached a political agreement on the climate-energy package aiming by 2020 at an energy efficiency enhancement by 20%, a 20% share of renewables in final energy consumption and a reduction of greenhouse gas emissions of 20% compared to 1990. This figure might be lifted to 30% if an international agreement is being reached at Copenhagen in December 2009.

The European industry in general and the steel industry in particular want to remind that such a global engagement must absolutely guarantee a level playing field by imposing on all States and regions measures similar to those applied in the EU; it also must involve for all sectors concerned worldwide a critical mass of some 85%.

Pending the realisation and actual application of a global agreement, the European industry - in particular the steel industry - must be identified as a sector exposed to global competition and thus still must be granted free allocation of emission rights on the basis of realistic benchmarks.

The steel industry also must receive sufficient emission rights in order to be able to guarantee optimal valorisation of its industrial gases, e.g. for electricity generation.

## Industrial emissions

In the EU, political discussions are continuing on the elaboration of a new Directive on industrial emissions, which will integrate several existing directives, among which the IPPC (Integrated Pollution Prevention and Control). Through its European federation Eurofer the steel industry is pleading for an approach, adapted in function of the environmental conditions linked to the geographical situation of the installations and their technical characteristics.

The steel industry is thus opposed to a system which would impose for each installation minimum requirements that have to be fulfilled at any moment; this would be contrary to the concept of derogation based on individual situations.

The European Commission has ordered a study on the possible introduction of an EU emission trading scheme for

NO<sub>x</sub> and SO<sub>2</sub> for all industrial installations. The steel industry, as well as all other energy-intensive industries, is against such a system and chooses for a scheme based on the best available techniques.

## REACH

The European REACH regulation - Registration, Evaluation & Authorization of CHemicals - obliges producers and importers to register the substances that they are handling.

The non compulsory pre-registration period was closed on December 1<sup>st</sup>, 2008: there have been 2,6 million declarations in the EU, involving some 27.000 substances, of which over 1.600 containing iron.

The next deadline is December 1<sup>st</sup>, 2010: in function of the volumes concerned, substances must be registered with a description of the risks, linked to their use.

Dialogue at Eurofer level aims to analyse optimally the behaviour of the different types of steel and their components. A platform for collaboration with other sectors has been set up in order to study sanitary risks and ecotoxicity of substances used in the steel industry.

## Energy

The steel industry, facing global competition, must absolutely be able to assure its energy supply at competitive conditions.

To optimize security of supply, the nuclear option, as well as alternative electricity generation methods like wind, photovoltaic and biomass, have to stay open.

In the context of the very ambitious goal of 13% of renewables by 2020, imposed on Belgium, the potential of production alternatives has to be evaluated on the basis of analysis of their technical and economical feasibility.



# Centre for Research in Metallurgy

www.crm-eur.com



CRM is a collective Research Centre for the Iron and Steel industry as well as for the non-ferrous metals industry, with worldwide activities and is ISO 9001 certified.

CRM is located in Liège and in Ghent with two teams working in close collaboration on basis of several unique world-class pilot lines and simulators.

In the steel industry, the main CRM activities are aiming at the innovation in the fields of new generic steel grades, advanced surface engineering and new eco-friendly steel processes. Among the more than 80 research projects, the following most recent innovations of CRM can be mentioned:

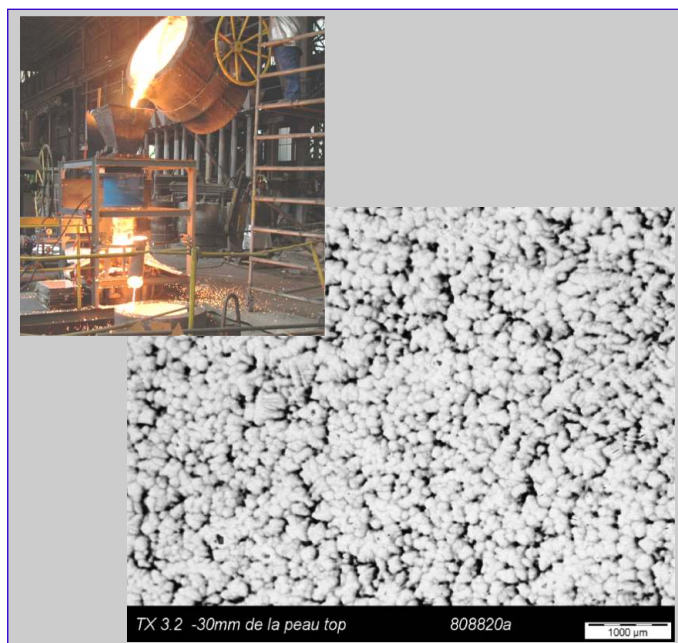
- first steel thixoformable structure realized at a pilot plant of Marichal-Ketin (fig. 1)
- beneficial effect of asymmetrical rolling on rolling energy and advanced wear resistance of working rolls thanks to unique inserts (fig. 2),
- innovative steel sandwich panels containing PCM (phase change materials) for energy savings in buildings.

Thanks to its transversal competences, CRM is increasingly involved with guidance and technology transfer towards the SME's. Also CRM is still consolidating its partnership with other collective research centres and is developing new competences, in the frame of the Plan Marshall.

The CRM researches are financed by contributions from the Active Members (ArcelorMittal and Corus) and the Associate Members as well as by grants from the Public Authorities (Belgian Regions and European Community).

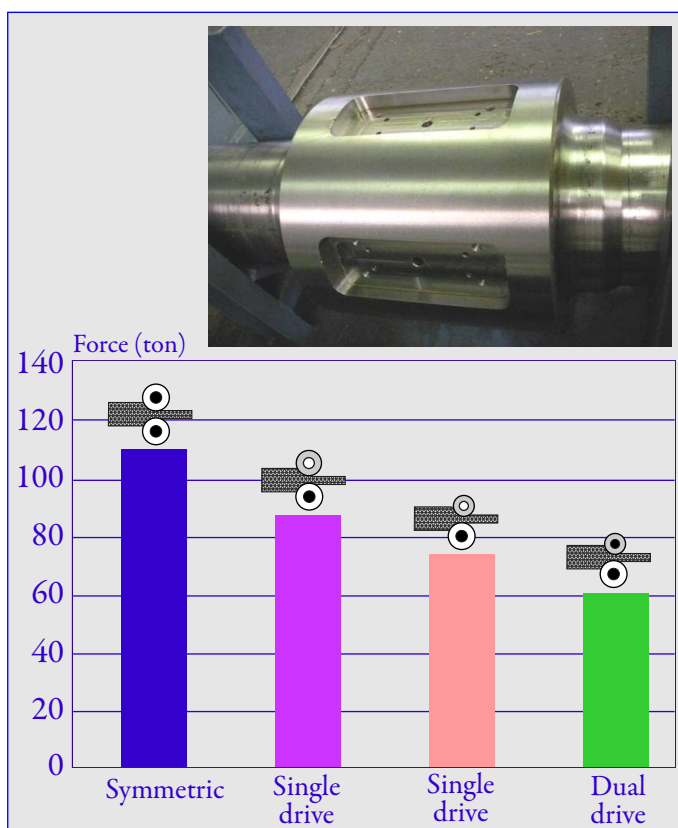
Since 2008, CRM has been involved in the creation of two patrimonial joint-ventures, respectively with OCAS in Ghent (MPC) and with AMLR in Liège (SAMCoat).

In October 2008, CRM celebrated its 60th anniversary.



*Fig. 1*

## Steel Thixoforming



*Fig. 2*

## Asymmetrical Rolling and Working Rolls with Inserts