



ArcelorMittal

# news release

## **ArcelorMittal launches Stelignce® , a radical and disruptive construction industry concept**

19 June 2018 – ArcelorMittal has unveiled a radical new concept for the use of steel in construction, which will facilitate the next generation of high performance buildings and construction techniques, and create a more sustainable life-cycle for buildings.

Known as Stelignce®, the concept revolves around the idea of buildings as holistic entities where all aspects of design are considered in an integrated way, as part of the whole. As such, it proposes the need for better dialogue between various specialist architectural and engineering disciplines, recognizing not only specialist expertise, but also the need for enhanced co-operation between experts. Stelignce® further suggests that the use of best available technology in steelmaking, as well as modularization of steel components in buildings where possible, has the capacity to generate efficiency gains in the design, construction and configurability of buildings as compared to those using traditional construction methods.

Additionally, because steel is infinitely recyclable, Stelignce® sets the stage for architects to consider the life-cycle, recyclability and, ultimately, re-usability of a building and its components at the earliest point in the design process.

This new approach to construction from ArcelorMittal has been brought about by real advances in technology which now make steel an even more attractive material for construction than was previously the case. As such, the Stelignce® concept has the potential to drive significant architectural and sustainability benefits.

These benefits include more building storeys within a given height than is the case with traditional building systems and materials; less deep and therefore less costly foundations due to the lower weight of steel buildings compared with traditional materials; and far longer uninterrupted spans between columns, resulting in much better flexibility of interior floor layout.

In addition, buildings designed using the Stelignce® philosophy will be easier to assemble (and potentially disassemble) and therefore quicker to build, leading to significant efficiencies and cost savings for the construction sector.

While steel's infinite recyclability potential is clearly superior to that of alternative materials, even then there are associated costs given the energy necessary to melt and re-form. In this context, design where possible using modular steel components can enable re-use rather than re-cycling of steel components in new buildings at the end of life of the original building. This 're-use' possibility gives steel a huge advantage over traditional building materials, particularly as regulations strengthen regarding the sustainability credentials of buildings.

Steel already plays a big role in the circular economy. Steligence® will enable the construction industry and buildings themselves to play an even more significant role in it.

Speaking at a launch event in London, Greg Ludkovsky, ArcelorMittal's global head of research and development, said: "As climate, energy and resource scarcity intensifies, win-win solutions like Steligence® become imperative for business and society at large. Buildings play a huge part in all our lives, so creating a construction concept that improves their social, economic and environmental impact while dramatically enhancing their functionality and aesthetics has been a huge but important challenge."

"Steligence® is the culmination of several years' intensive scientific, independent peer reviewed research to develop specific-use steel for the construction industry. By combining this R&D with extensive consultation of leading players in the construction industry, we have landed on a radical new approach to construction which is underpinned by a clear philosophy: to build a sustainable business around a sustainable construction industry that delivers for future generations."

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## **Notes to editors: Ten key benefits of the Steligence concept**

### ***Economic***

- Optimal space and height. Use of the Angelina™ beam and CofraPlus 60 compact floor enables greatly reduced building height resulting in average 11% cost savings across façade, stairs and core elements.
- Lighter weight foundations. Steel foundation solutions, less than half the weight of equivalent structures, can result in an average 39% foundation cost saving, like-for-like.
- More flexible office space. Using the Angelina™ beam, un-interrupted spans of up to 13m can be achieved. Consequent reduction in columns allows easy reconfiguration of office space and therefore increased rental value.
- Speed of construction. Best in class steel solutions using 13m spans can be erected up to twice as fast as concrete equivalents in 8m and 5m spans resulting in up to 24% construction costs saving.
- Cost of ownership. Total costs of building ownership, taking into account all economic benefits, are at least 15% less than those constructed using alternative materials, when all components of the concept are applied.

### ***Environmental***

- Lower environmental impact. With comparatively low environmental impacts and higher recycling rates than other building materials, steel is the first choice for sustainable construction. Steel enableS access to the green building market with consequent increase in property value.
- Sustainability ratings. Buildings using ArcelorMittal steel solutions attain higher levels of certification in building rating schemes such as BREEAM and LEED than those built with traditional materials.

### ***Social***

- Improved comfort. Steel buildings provide a more comfortable environment for building users due to optimised thermal behaviour during warm weather.
- Site traffic. Steel requires fewer site deliveries than comparative materials, resulting in less traffic congestion and so reduced impact on the urban environment.
- Creativity. Steel cladding solutions offer an unparalleled choice of creative, attractive finishes, adding materially to the urban landscape.

**ENDS**

## **About ArcelorMittal**

*ArcelorMittal is the world's leading steel and mining company, with a presence in 60 countries and an industrial footprint in 18 countries. Guided by a philosophy to produce safe, sustainable steel, we are the leading supplier of quality steel in the major global steel markets including automotive, construction, household appliances and packaging, with world-class research and development and outstanding distribution networks.*

*Through our core values of sustainability, quality and leadership, we operate responsibly with respect to the health, safety and wellbeing of our employees, contractors and the communities in which we operate.*

*For us, steel is the fabric of life, as it is at the heart of the modern world from railways to cars and washing machines. We are actively researching and producing steel-based technologies and solutions that make many of the products and components people use in their everyday lives more energy efficient.*

*We are one of the world's five largest producers of iron ore and metallurgical coal. With a geographically diversified portfolio of iron ore and coal assets, we are strategically positioned to serve our network of steel plants and the external global market. While our steel operations are important customers, our supply to the external market is increasing as we grow.*

*In 2017, ArcelorMittal had revenues of \$68.7 billion and crude steel production of 93.1 million metric tonnes, while own iron ore production reached 57.4 million metric tonnes.*

*ArcelorMittal is listed on the stock exchanges of New York (MT), Amsterdam (MT), Paris (MT), Luxembourg (MT) and on the Spanish stock exchanges of Barcelona, Bilbao, Madrid and Valencia (MTS).*

*For more information about ArcelorMittal please visit: <http://corporate.arcelormittal.com/>*

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