

IRIS CERAMICA GROUP AND EDISON NEXT PRODUCE THE WORLD'S FIRST CERAMIC SLAB WITH GREEN HYDROGEN

- *The test phase is underway for using a blend of green hydrogen and natural gas at the H2 Factory to verify that the technical characteristics and quality of the slabs remain unchanged*
- *After the test phase, Edison Next will design and install the final system, a cutting-edge, bespoke green hydrogen production plant*
- *The first concrete result for the decarbonization of the ceramics industry using green hydrogen, a significant contribution to achieving Italy's energy transition goals*

Castellarano, July 11 2024 - **Iris Ceramica Group**, world leader in the production of innovative solutions and large, high-end technical ceramic slabs for the design, furnishing and architecture market, and **Edison Next**, a company in the Edison Group that supports customers along their decarbonization journey and ecological transition, **announce the production of the world's first 4D technical ceramic slab using a blend of green hydrogen** – hydrogen obtained using renewable energy – **and natural gas**. Specifically, the slab produced is **3.2 metres long, 1.6 metres wide and 12 mm thick**, and stands out for its **four dimensions** – thus the name **4D Ceramics** - in which, **in addition to the three-dimensionality of the material and its grains, crossing the whole thickness of the slab, we find the fourth dimension: sustainability**.

The production site is the **H2 Factory**, the new plant in Castellarano, Reggio Emilia – completed in 2023 – and already equipped with the innovative technologies and infrastructures needed to use 100% green hydrogen.

The industrial process being developed in Castellarano is the first concrete result in the process of decarbonising the ceramics industry that Iris Ceramica Group and Edison Next are working on jointly. After this initial phase, the *H2 Factory* will be powered by higher percentages of green hydrogen produced in a cutting-edge, bespoke plant already designed and being implemented by Edison Next.

“The start of this phase is a concrete step towards net zero for a particularly energy-intensive industrial sector like ceramics. This is the proof that, by putting technologies and innovation into play alongside skill and determination, we can achieve major results even in fields where this challenge is tough, as it demands the rethinking of the whole production process and the use of more forward-looking technologies like hydrogen,” Giovanni Brianza, CEO of Edison Next, states. “We are proud to be working with one of the top names in Italian manufacturing on this pioneering initiative, not only for the whole sector but also for the country, supporting a new industrial culture that focuses on sustainability. This is not only an opportunity for positive change but also a tool for increasing competitiveness in the reference markets.”

“Today marks a major achievement, yet another tangible fact that bears witness to our commitment to decarbonising the ceramics sector. A unique and pioneering project with world-wide scope that offers new prospects for hard-to-abate manufacturing, showing that it can be done,” Federica Minozzi, CEO of Iris Ceramica Group, explains. “The test phase will help us to fine tune the production process, before moving on to the next phase, which will allow us to increase the percentage of green hydrogen more and more, up to 50% with the bespoke production system that Edison Next is creating for us. This is a highly valuable partnership, and we are proud of this

achievement, the result of team work within the whole supply chain and a virtuous example of integrated sustainability. We hope that other companies will follow our path, so that we can work as a system and become a driver of change, both nationally and beyond,” Federica Minozzi concludes.

Several preparatory activities have been completed in order to launch this first phase: the civil works to prepare the area, the installation of the blending unit, which is the system that mixes the natural gas with the green hydrogen, and all the connections required between the different equipment. Furthermore, a **1.3 MWp¹ photovoltaic system** has been installed, in addition to the existing **2.5 MWp** plant.

In particular, the H2 pilot production plant, in operation since May 2024 for the test phase, includes **two temporary electrolyzers with a total power of 120 KW**, powered by renewable energy. The two electrolyzers, installed in a container, can produce up to 20 cubic metres of green hydrogen per hour, powering the new, latest-generation “hydrogen ready” kiln **with a blend of green hydrogen up to around 7%; this percentage will increase once the final plant is installed.**

The aim of this first phase is to study the use of the technology for the production of ceramic slabs using green hydrogen and, at the same time, verify the behaviour of the material during the firing phase, in order to be able to industrialise the production with green hydrogen with the certainty of assuring the technical and aesthetic excellence and quality that Iris Ceramica Group has always guaranteed. **4D Ceramics**, the material produced at the *H2 Factory*, represents the jewel in the Group’s crown, expressing all the beauty and nobility of this natural material, used to serve the high-end furnishing market.

In parallel to the test phase, in the coming months Edison Next will start all the activities required to install the final system, a plant producing green hydrogen through electrolysis with a capacity of 1 MW and able to produce around 132 tonnes of green hydrogen a year, which will be used to power the kiln with a blend of methane and green hydrogen **up to around 50%**. The blend will immediately replace around 500,000 cubic metres of natural gas per year, avoiding around 900 tonnes a year of atmospheric emissions of CO₂*.

The green hydrogen production system being implemented by Edison Next is already designed to double the production of green hydrogen, which will be able to feed a new 100% hydrogen kiln currently under study.

* Certified by LEAP s.c.ar.l. Laboratorio Energia ed Ambiente Piacenza

¹ Megawatt peak

Iris Ceramica Group is a world benchmark in the design and development of high-end natural ceramic materials for innovative solutions and architecture, design and furnishing projects. With over 60 years of business experience, the Group works in over one hundred countries, with a very clear vocation: to re-engineer ceramics to improve the interaction between people and the environment they live in thanks to this natural material, one of the most noble and high-performing in the world. Iris Ceramica Group, which has around 1500 employees worldwide, has its headquarters in Fiorano Modenese, and production sites in Italy, between the provinces of Modena and Reggio Emilia, in addition to two production sites abroad, in Germany and the United States. The Group works in the high-end market with different historical brands, recognised as some of the most important players on the international scene. Among the most prestigious in the design and architecture field: Ariostea, Fiandre, FMG - Fabbrica Marmi e Graniti, Iris Ceramica, Porcelaingres, SapienStone and Stonepeak Ceramics.

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Edison Next supports customers and territories along their decarbonization journey and ecological transition, leveraging on a platform of innovative, efficient solutions to optimise consumption and decarbonisation. Technology and digital tools play a key role, in order to maximize competitiveness and performance. Edison Next also operates in the circular economy and environmental services sector and is committed to support the development of biomethane and hydrogen markets. Edison Next has competences and assets to supply integrated solutions through an end-to-end approach: from energy and environmental consulting and the definition of decarbonisation targets, through to the identification of a roadmap and the relevant solutions, the design and implementation of solutions and the monitoring of results. Technological innovation and research and development are essential both for seizing new opportunities in the energy sector and for successfully addressing the present challenges of climate and economic changes. This is why Edison Next is strongly committed to environmental protection, energy optimisation and the development of green gases. Edison Next works in Italy, Spain and Poland with over 3,700 employees working in over 70 industrial sites, 2,300 (public and private) facilities and 300 cities.

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