

The background of the entire cover is a high-angle photograph of a city skyline, likely Bangkok, with numerous skyscrapers and buildings. In the foreground, there is a lush green park with a winding path and a small body of water reflecting the sky. The word "TRENDS" is superimposed in large, bold letters, with "TREN" in red and "DS" in white. Below it, the words "BUILDING TOMORROW" are in a white box with black text.

TRENDS

BUILDING TOMORROW

4. GREEN & CIRCULAR | **9. A HEALTHY FUTURE**
13. SMART FUNCTIONALITY | **17. TIME FOR EFFICIENCY**

A TRENDS COMMENTARY
POWERED BY IMCD

.....
2021

[Read more online](#)

BUILDING **THE CITY** OF **TOMORROW**

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UNDERSTANDING TODAY'S
EVOLVING TRENDS WILL
HELP CREATE **HIGH-QUALITY,**
FUTURE-PROOF FORMULATIONS
THAT **RESPOND TO THE**
MARKET NEEDS OF TOMORROW

COATINGS & CONSTRUCTION **TRENDS FOR 2021** POWERED BY IMCD

Here at IMCD's Coatings & Construction Business Group,
we want to help people live and work more safely and enjoyably,
with the products they use and in the spaces they inhabit.

Achieving that requires understanding user needs and meeting them
with innovation that can weather any regulatory storm. We're here to help
our customers and partners create high-quality, future-proof formulations
that respond to the market needs of tomorrow.

The City of Tomorrow

In our everyday lives, we see small innovations that add up over time, fuelling ongoing change of the cultural tide. In the coatings and construction industry, existing big-picture trends such as sustainability, healthy living and the digital revolution continue to steadily evolve and open up new windows of opportunity. In 2021, it's time to take a closer look at how innovation can direct their course – by enabling exciting, trend-oriented applications for the way we'll live in the future, in our city of tomorrow.

25 Years of Value Creation

At IMCD, we pride ourselves on the expertise of our technical team, which sets us apart in our ability to help our partners innovate and evolve in response to the needs of their market. Our work is supported by an in-depth understanding of trends, from the global to the local, and enabled by our extensive portfolio. Over the past 25 years, we have solved challenges and co-created smart solutions for the coatings and construction industry, building meaningful, long-standing partnerships along the way.





3 IN 4

PEOPLE SAY IT'S NOW
MORE IMPORTANT TO THEM
THAT **COMPANIES BEHAVE**
IN AN **ECO-FRIENDLY MANNER**
IN 2021 AND BEYOND

GREEN & CIRCULAR

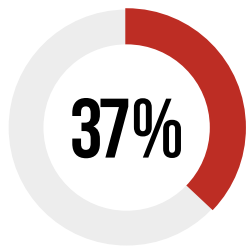
THE QUEST FOR SUSTAINABILITY

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Sustainability has long been a point of discussion, but now industry professionals at every stage of the supply chain recognise its ever-increasing importance. Many are realising that it is not simply an end goal, but a continuous process that requires constant evolution.

Sustainability only works with a circular approach that considers every stage of a product or material's life-cycle and ensures all stakeholders during that cycle may mutually benefit from one another's choices.

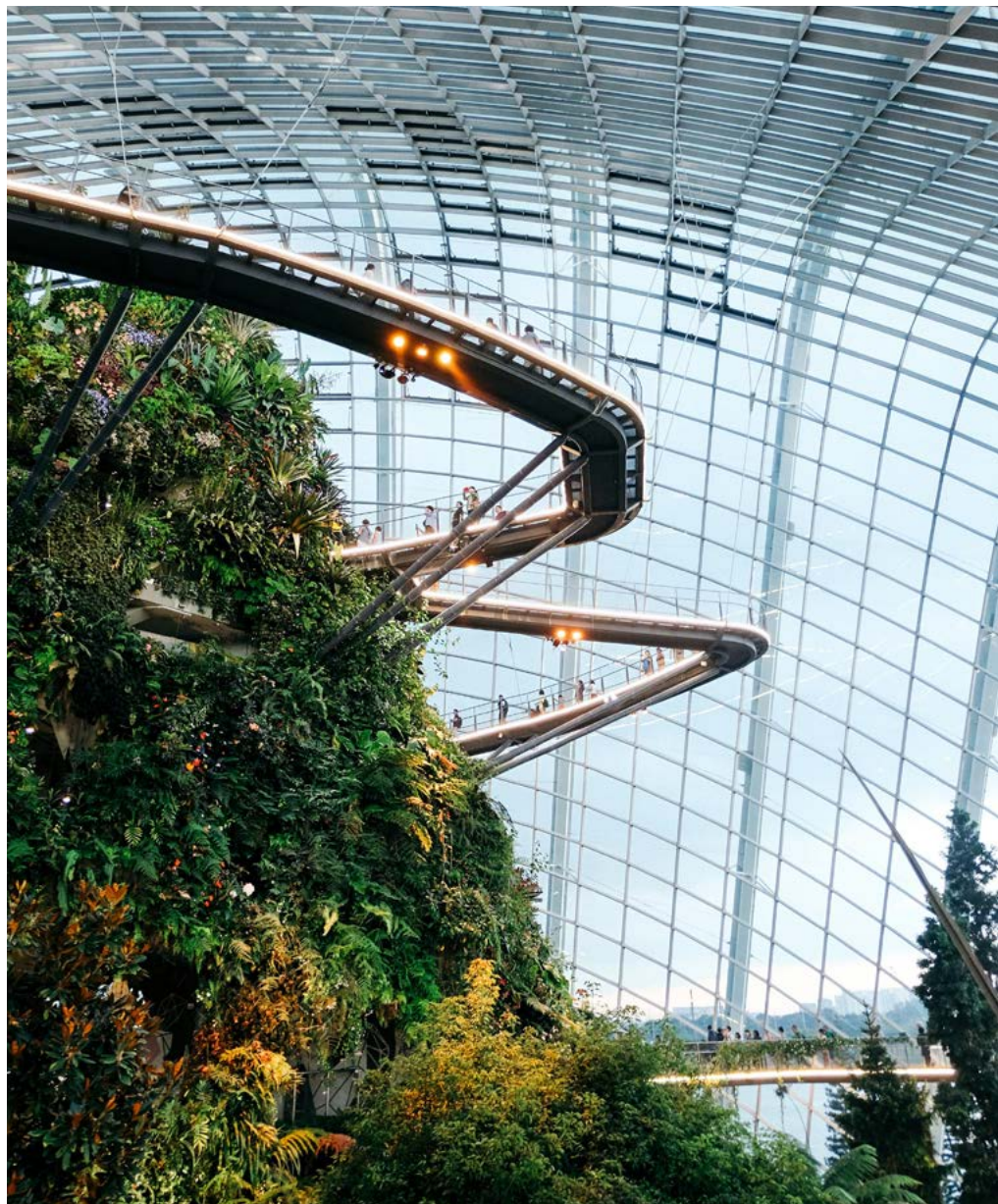




THE PORTION OF
CONSUMERS IN **EUROPE**
AND **NORTH AMERICA**
WHO SAID THEY WOULD
LIKE BRANDS TO SUPPORT
LOCAL SUPPLIERS
IN Q2 OF 2020

Everyone's Responsibility

The COVID-19 pandemic played a role in making environmental concerns more mainstream in 2020. In the early stages of worldwide 'lockdowns', social media feeds were filled with signs of what happens to the planet when humans go quiet, with air and water quality improving to the point where the Himalayas became visible from India for the first time in decades¹. In 2021, it's now more important than ever for many to live by a strong value system that applies to every aspect of consumption. Consumers increasingly seek sustainable solutions that save space and waste while reducing carbon footprint. Meanwhile, 3 in 4 people say it's now more important to them that companies behave in an eco-friendly manner in 2021 and beyond²



A Clean Report Card

Buyers have higher expectations than ever for a product's credentials in sustainability, and they are looking for guidance on who to trust. Voluntary third-party green certification programmes are now playing a vital role in influencing purchasing decisions. Meanwhile, regulations are becoming more broad-ranging and complex, which has resulted in some widely used products falling by the wayside.

A Hyper-Local Future

Rapid urbanisation was already leading to the shrinkage of public and domestic space, but the COVID-19 pandemic has accelerated a sense of living in a more compact way, along with a new appreciation for local community. In 2020, the portion of consumers in Europe and North America who say they would like brands to support local suppliers was already around a third in Q1 at 31%, rising to 37% in Q2³.

1. <https://edition.cnn.com/travel/article/himalayas-visible-lockdown-india-scli-intl/index.html>

2. Global Web Index Connecting the Dots Report 2020

3. Ibid.



MATERIAL CHANGES

Innovation is a great facilitator of sustainability. The latest formulations in the coatings and construction industry offer huge leaps forward in sustainable functionality, and the market is paying attention.

BIO-BASED FORMULATIONS

A recent survey of coatings industry experts showed that 77% believe bio-based coating formulations are now more important for their business than they were five years ago⁴, which means this once-niche trend is fast moving into the mainstream. The strongest demand is currently in Europe, but the market shows signs of widening in the post-pandemic era.

WATERBORNE & SOLVENT-FREE COATINGS

Valued at USD 53.32 billion in 2017, the global waterborne coatings market is anticipated to grow at a CAGR of 5.7% until 2025⁵. Reducing emissions of Volatile Organic Compounds (VOC) upon drying of the film, waterborne coatings have been applied to an increasing variety of materials over the last decade, and booming automobile production in Asia and Latin America is further expected to boost demand.

RENEWABLE RAW MATERIALS

Researchers continue to investigate new potential bio-based sources for renewable raw materials. The category is already diverse, including grasses, seeds and nuts. Meanwhile, waste-to-new raw materials include the re-use of biofuel waste and manufacturing by-products in new product formulations.

77%

BELIEVE BIO-BASED COATING FORMULATIONS ARE NOW MORE IMPORTANT FOR THEIR BUSINESS THAN THEY WERE FIVE YEARS AGO

↑ CAGR
5.7%

THE GLOBAL WATERBORNE COATINGS MARKET IS ANTICIPATED TO GROW AT A CAGR OF 5.7% UNTIL 2025⁵

4. <https://coatings.specialchem.com/centers/bio-based-resins-for-coatings>

5. <https://www.grandviewresearch.com/industry-analysis/waterborne-coatings-market>

EXPERT Q&A

EXPECT TO SEE
GREEN BUILDINGS
WITH **PLANT-COVERED**
FACADES THAT NOT ONLY
LOOK BEAUTIFUL BUT
ALSO **PURIFY THE AIR**



We asked Christiane Orset, Technical Marketing & Coatings Academy Manager, and Roberta Pecchini, Technical Manager Italy, to weigh in on what's next for sustainability:

Sustainability has been a topic for a while – what's changing in 2021?

We're always searching for new, even more sustainably sourced raw materials and processing aids. Low-VOC, high-performance coatings are now common, and the spotlight has narrowed onto bio-based and bio-sourced alternatives. At the same time, the regulatory landscape is increasingly complex, with previously relied-upon materials becoming unusable, as we have seen with the EU's Biocidal Products Directive. We're anticipating even greater changes soon, driven by the new European Green Deal and its 2050 targets. That means manufacturers must continually innovate to maintain the same high standards.

How will formulations become even more sustainable in the years to come?

The challenge will be to reduce carbon footprint through the use of bio-based and bio-sourced raw materials, while meeting needs on every level, for example in terms of performance and safety, and achieving circular sustainability. Bio-based formulations, which have already gained traction in the coating space, will soon also find innovative new applications in the construction market.

How will the city of the future reflect our evolving sustainability priorities?

Expect to see green buildings with plant-covered facades that not only look beautiful but also purify the air: the city of the future will house eco-friendly products on the inside, and host green, park-like spaces on the outside. Reducing consumption by maximising efficiency will be a higher priority than ever: at IMCD, we'll be supporting our customers with solutions that allow them to help build new houses with close to zero primary energy consumption.



RAW MATERIALS TO WATCH

BIO-BASED RESINS

By-products of the biodiesel refinement process are no longer seen as waste: they can now be synthesised into bio-based resins. Other sources include potato skins, sugarcane waste, cashew nut shells and even algae⁶.

LOW-CARBON CEMENT

Cement made by a process developed at Rutgers University uses a recipe with more clay, less limestone and less heat to reduce carbon dioxide emissions by 30%⁷.

6. <https://coatings.specialchem.com/centers/bio-based-resins-for-coatings>

7. <https://www.scientificamerican.com/article/low-carbon-cement-can-help-combat-climate-change>

A HEALTHY FUTURE — CLEAN LABEL & SAFE USE

Nowadays, hygiene is top of people's minds. They are also more concerned about general health, and all the ways to maintain it, which includes paying close attention to product labels and verifying their safety.

Indeed, safety should come as standard.

Tomorrow's raw material producers, applicators and consumers are looking for solutions that are not only exceptionally safe but also meet their other expectations, such as being environmentally friendly, and even offering active health benefits. As asthma and allergy diagnosis rates continue to rise, manufacturers and consumers alike are doing their research, making sure they know what goes into their materials and formulations, as well as the coating on their coffee cup or the walls of their home.

RELIED-UPON **RAW MATERIALS**
ARE **INCREASINGLY** COMING
UNDER THE SPOTLIGHT AND
BEING SCRUTINISED





SAFE & EASY

In 2021, safety goes hand in hand with an effortless, streamlined experience. Manufacturers want to feel secure in the source of their raw materials, while consumers want to know they are using non-harmful products when attempting DIY applications. In the coatings and construction industry, there is value in anything that makes application safer and easier, and it's here that regulation can open up new opportunities.

REGULATORY ROAD

As consumer attention to labels grows, so too does the need for regulation of raw materials in coatings and construction products. Relied-upon raw materials are increasingly coming under the spotlight and being scrutinised, such as titanium dioxide, the white pigment which in 2020 was classed by the European Commission as a Category 2 suspected carcinogen by inhalation⁸.

INDOOR AIR QUALITY

Moving beyond low-VOC to no-VOC formulations is proving a game changer for improved indoor experience during the application process. The latest no-VOC products demonstrate previously unseen performance capabilities, while improving air quality thanks to low-odour properties.

8. <https://www.chemanager-online.com/en/news-opinions/headlines/tio2-industry-mulls-action-against-eu-classification>



EXPERT Q&A

WE MUST **RISE TO THE**
PRESSING **CHALLENGE** OF
PRODUCING PAINTS THAT
CREATE **ZERO EMISSIONS**



We asked Jerome Bollard, Global Technical Director, what we need to know for a safer tomorrow:

What are the main priorities for formulators when they consider the impact of a product on consumer health and safety?

It's essential for formulators to be aware of current regulatory developments and understand the market environment, including consumer concerns. Only with that knowledge can they truly get a sense of what a product user needs, and how to ensure those needs are met with all health and safety requirements in place. It's also important to consider how health and safety relates to raw materials and processing throughout the supply chain.

We're considering the health and safety of the people who handle the product in production, in the warehouse, during transport and application. At every stage of what we do here at IMCD, people's needs come first.

How are regulations affecting purchasing decisions?

Regulation is a key driver for formulation innovation, encouraging manufacturers to get creative in finding solutions that meet a buyer's every need, from functional to health-related to ethical, with an appeal that goes beyond the surface. During times of pandemic, health is under the spotlight, so we expect growing scrutiny of commonly-used raw materials and formulations.

What will be the biggest health and safety challenges to solve in the city of the future?

Air quality will of course be a huge topic, and we will develop new ways to manage it as our understanding of airborne particulates grows. In the coatings and construction industry, we must rise to the pressing challenge of producing paints that create zero emissions, which could even improve the quality of the air we breathe.

RAW MATERIALS TO WATCH

FUNCTIONAL WOLLASTONITE FILLERS

At IMCD, we leverage Wollastonite's functional properties to increase the in-can preservation life of water-based paints, which replaces pH buffers and enables up to 75% reduction in biocide levels. This is ideal for achieving a GHS label-free paint formulation with a suitable shelf life.

WOLLASTONITE

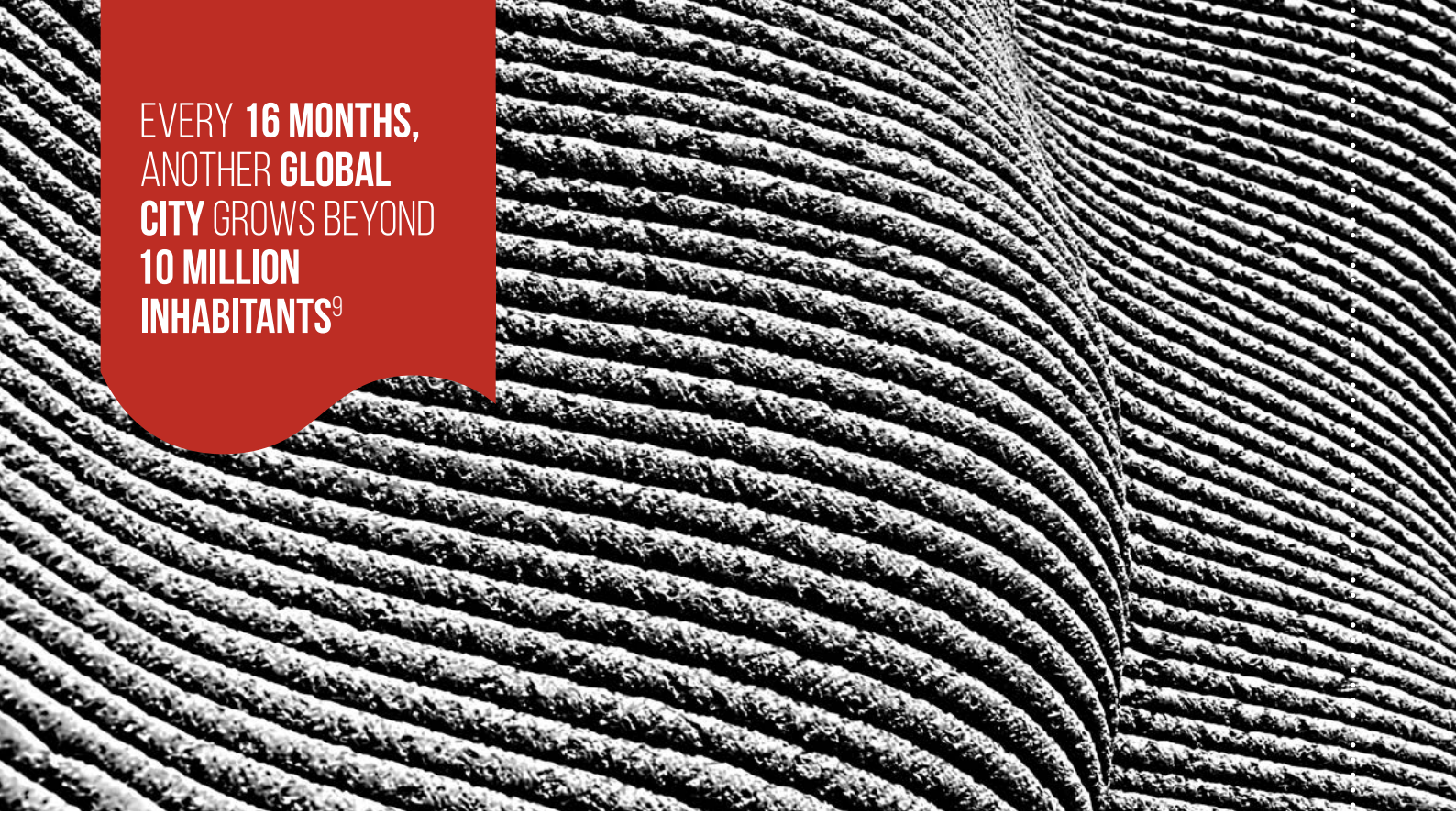
Wollastonite is a naturally occurring mineral with unique characteristics, which can be leveraged through advanced processing techniques, making it a versatile functional filler.

LEAD-FREE PIGMENTS FOR DIY PAINTS

Offering a clean label alternative to pigments with toxic lead chromate, a source of yellow. New formulations feature excellent opacity and brightness, low oil absorption and high saturation.

VINYL ACETATE-BASED POLYMER EMULSIONS (VAE)

These enable paint manufacturers to develop high-performance products with low odour and low-to-zero emission of VOC.



EVERY **16 MONTHS**,
ANOTHER **GLOBAL**
CITY GROWS BEYOND
10 MILLION
INHABITANTS⁹

.....

SMART FUNCTIONALITY ADDING NEW FEATURES

Every 16 months, another global city grows beyond 10 million inhabitants⁹. Smart cities are becoming essential in allowing us to navigate the maze of modern urban living.

E-mobility is already part of everyday life, with over a million car charging points installed around the globe¹⁰.

In the wake of the pandemic, our relationship to urban spaces is also evolving: when consumers venture out, they come to expect the same effortless functionality and accessibility they are now accustomed to in their smart homes. For innovators in the coatings and construction industry, it's essential to meet the growing demand for high-quality products and spaces, which demonstrate tech-driven multi-functionality at their core.

9. <https://www.bosch.com/de/stories/smart-city-challenges/>

10. <https://europe.autonews.com/automakers/ev-charging-stations-pass-1-million-mark-globally>



CONCRETE PRINTS

New technology now enables 3D printing with concrete, which opens up new innovative applications in construction. Concrete's material properties can be fully explored to create unique, eye-catching and elegantly functional designs, using a zero-waste construction process that saves both time and labour.

COOL COATINGS

Cool coatings have come a long way since traditional whitewashing: new materials reflect nearly 100% of the sun's incoming rays, compared to the 80% of visible light reflected by white paint. Super insulating materials are now being used to improve the insulation properties of paints and construction products, improving the energy efficiency of buildings, which are currently responsible for around 30% of greenhouse gas emissions¹¹.

ANTI-MICROBIAL MATTERS

Anti-microbial coatings use chemicals to hinder the growth of pathogenic micro-organisms, which is all the more important to consumers in the wake of COVID-19. Not only can they help to prevent the spread of disease, but they also work against mould and bacterial odours. This enables a variety of coating applications in environments where safety comes first, such as food service and healthcare.

11. <https://www.nationalgeographic.com/environment/urban-expeditions/green-buildings/benefits-of-green-buildings-human-health-economics-environment/>



EXPERT Q&A

THE APPETITE FOR
**ONE-SIZE-FITS-ALL
SOLUTIONS**
IS GREATER THAN EVER



Ayaz Khan, Technical Director Americas and Olaf Hetche, Technical Manager Construction, share their thoughts on getting smarter:

What's driving the need for smarter functionality? How have expectations changed over the last 5–10 years?

Coatings have evolved dramatically over the years, and consumers have higher expectations for them than ever. Paints and architectural coatings must not only be decorative, but also be durable, environmentally-friendly and even increase the life or functionality of a surface. The appetite for one-size-fits-all solutions is greater than ever, which means manufacturers have a chance to get more adventurous as they innovate.

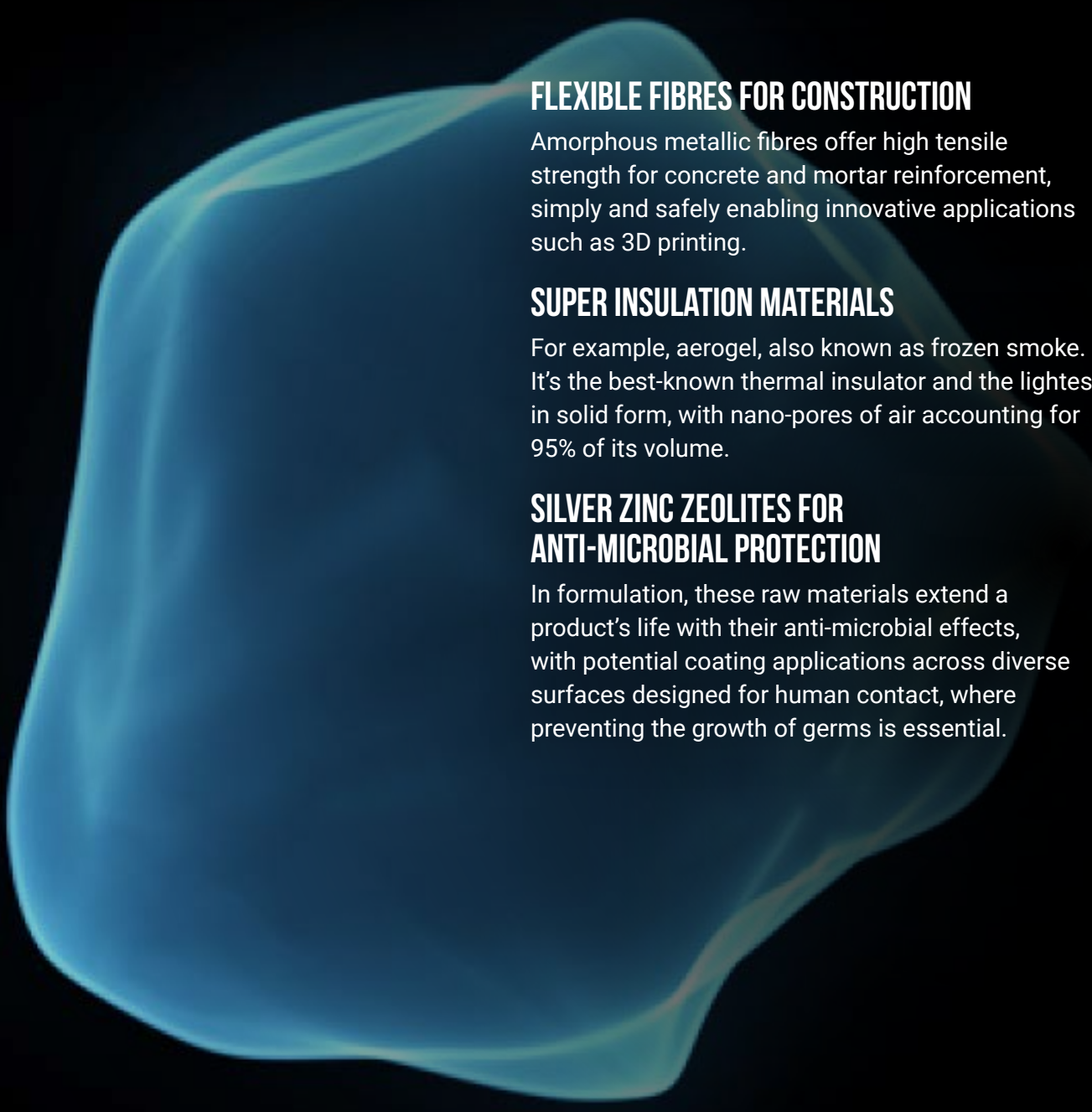
Is delivering functionality more of a priority for SME innovators or large companies?

Ideas come from end users – they're the ones who are pushing you. So, it's not a matter of company size, but how well you can hear the voice of the customer. There is a big difference between making what you think the customer wants and what they actually want. Larger companies may have too many cooks in the kitchen, while the smaller players can make up for what they lack in resources by bringing drive, focus and a spirit of innovation.

How can IMCD support these innovators?

We are in the lab looking for innovation every day as we mix and experiment with the many raw materials we have in our portfolio – it's this vast selection that gives us a unique opportunity to solve any challenge they may face. We support innovators by helping them to find exactly the right mix they need – a solution rather than a mere product.





RAW MATERIALS TO WATCH

FLEXIBLE FIBRES FOR CONSTRUCTION

Amorphous metallic fibres offer high tensile strength for concrete and mortar reinforcement, simply and safely enabling innovative applications such as 3D printing.

SUPER INSULATION MATERIALS

For example, aerogel, also known as frozen smoke. It's the best-known thermal insulator and the lightest in solid form, with nano-pores of air accounting for 95% of its volume.

SILVER ZINC ZEOLITES FOR ANTI-MICROBIAL PROTECTION

In formulation, these raw materials extend a product's life with their anti-microbial effects, with potential coating applications across diverse surfaces designed for human contact, where preventing the growth of germs is essential.



**DRYING TIME,
DURABILITY,
RECYCLABILITY AND
AESTHETIC APPEAL
MUST BE WEIGHED
UP CAREFULLY IN THE
SEARCH FOR VALUE**

TIME FOR EFFICIENCY

MAKING MORE WITH LESS

While sustainability, safety and smart technology are currently in the spotlight, efficiency has always been a key consideration that brings everything together for the entire coatings and construction value chain.

It covers cost savings, waste reduction, ease of process and more. After all, how can a process be sustainable or smart if it is not efficient?

In the increasingly competitive coatings and construction industry, efficiency relies on maintaining an artful balance between innovation and regulation, quality of production and ease of distribution, cost effectiveness and ease of use. Elements such as drying time, durability, recyclability and aesthetic appeal must be weighed up carefully in the search for value, which means different things to different stakeholders.





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SOLID FORM

High solids coatings combine low viscosity and low VOC levels with a high curing speed, which allows for faster application with fewer base coats needed – saving time, energy and money.

LAYERING LOW

Demand for direct-to-metal coatings, which eliminate the need for added layers, is growing in response to the EU cap on VOC factory emissions. The latest formulations offer improved adhesion and corrosion resistance while taking up minimal space and offering a glossier appearance¹².

12. https://360.european-coatings.com/journals/european_coatings_journal-6.2014/present_and_future-EC__4c9d50c2cae9f74ea71236a012fb8d55514c81e2

EXPERT Q&A

MANUFACTURERS AND FORMULATORS
NOW PUT **MORE EMPHASIS** ON ACHIEVING
COST-EFFICIENCY OVER THE LONG-TERM
WITH **INVESTMENT** IN **OPTIMISING**
AND **FUTURE-PROOFING** PROCESSES



We asked Jörg Schmitz, Technical Director EMEA, to weigh in on what efficiency really means moving forward:

What drives the need for efficiency? Is there a limit to what can be achieved?

In our industry, we have worked so hard on efficiency, for so long, that many processes seem to be as optimised as they can get, and improvement takes place in smaller increments. However, that doesn't mean the landscape is standing still – in Europe and North America, where labour costs are higher and rising, an appetite for efficiency is particularly prevalent. One hot topic right now is improving efficiency through fast drying/curing systems and reduced layers

for better productivity and waste reduction. Regulatory changes and material innovations are also changing the playing field, giving us new elements to work with. What's important now is to maintain the high standards our customers are accustomed to, even as formulations and regulations evolve.

How do new technologies play a role in improving efficiency?

Technology is paving the way for personalisation, which has a huge impact on efficiency: every organisation saves time, money and energy when implementing a process and working with tools that have been built specifically for their needs.

How has our perception of 'value' changed against the backdrop of the global pandemic?

Many companies have learned the worth of a shorter value chain, and the importance of security in supply. Manufacturers and formulators are now more prepared to pay for products produced locally or regionally and prefer to have a choice of supplier. It's just as important as ever to balance this preference with the bottom line, but they now put more emphasis on achieving cost-efficiency over the long-term with investment in optimising and future-proofing processes.

RAW MATERIALS TO WATCH

FORMULATION SPOTLIGHT

Decorative paint manufacturers want to reduce their TiO_2 reliance, without losing any opacity or application performance. IMCD's innovative solution, developed with our portfolio of TiO_2 and rheology modifiers, saves up to 12.5wt% TiO_2 while maintaining the performance standards they expect – a highly efficient way of achieving more with less.

RHEOLOGY MODIFIERS

The thickening properties of rheology modifiers help to control paint's stability and to ease the process during both manufacturing and final application.

POLYASPARTIC RESINS

"Polyaspartic" chemistry first arrived in the early 1990s. It enables two-component, fast-curing direct-to-metal coatings with low-to-zero VOC emissions.

SILANE MODIFIED POLYMERS

An innovative one-component, solvent-free, fast-curing binder technology that increases product strength and stability, while extending its life.

WHAT'S NEXT?

At IMCD, we never stop asking, 'what's next?' – for us, for our partners, and for those who enjoy the products and spaces we help to create. That's what drives our passion to uncover the trends that are shaping future communities – from the broadest global level to on the smallest local scale. We're excited to co-create with our partners to bring those trends to life – supported by 25 years of expertise, consumer insights and market-leading technical capabilities.

If you're keen to know more about the future of coatings and construction, get in touch with us today! IMCD formulations and raw materials offer a world of opportunity for industrial innovation.

All enquiries:

IMCD | Coatings & Construction (imcdgroup.com)