

Nonwovens Vision 2020

Looking ahead at the fabric of the future



Take a closer look around you, right now: somewhere near, there is nonwoven—be it the tea bag in your mug, the lampshade on your table, or the interlining in your suit. Innovative and versatile, nonwovens can be engineered to possess—or better still, combine—a surprising array of properties. As such, they are the fabric of the future. Accordingly, it is only natural that EDANA, as the international “voice of nonwovens,” keep looking ahead to identify the trends that will shape our future. As part of this ongoing process, we developed a vision of the industry toward the 2020 horizon.

The resulting trends and recommendations, provided in other documents as a benefit to EDANA members, are outlined hereafter, organised along three axes: globalisation, sustainability, and innovation. Whatever your relation with the nonwovens industry, we hope you find these few pages useful.

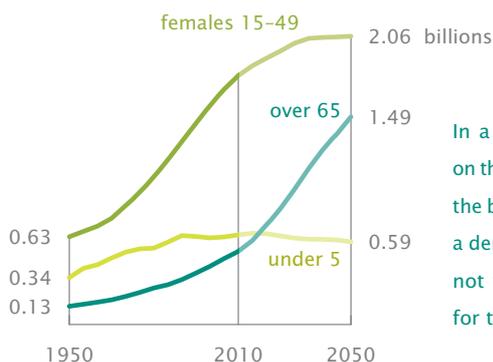


GLOBALISATION will accelerate over the next decade, and global economic power will likely shift eastward: Europe, Japan, and the United States will experience a relatively slow growth, while Asian economies grow faster. With global markets in low- and middle-income countries becoming the world's largest consumer markets, the demand will likely increase for all nonwoven products. One can expect a boom in agricultural and construction nonwovens, as well as further growth of low-impact consumer and hygiene products. Overall, consumers develop increasingly higher expectations.

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With the development of information technologies worldwide, access to information will heighten global awareness of risks and favour consumer-driven regulation. Still, it is unclear how these trends will affect the regulatory regime for nonwovens: will it move toward harmonisation or toward nationalisation, as G20 and other governments seek to develop regulations? Clearly, there is a fragmentation in attitudes on environmental stewardship and the willingness to accept new technologies.

As a consequence, the increasingly global nonwovens market is likely to become polarised between two types of product. Many mass-produced ones targeting the global middle class will remain high-volume, with profit margins under pressure. In contrast, some increasingly tailored high-tech products for customers in high-income countries will be manufactured in relatively low volumes, usually with a higher value added. In both cases, low environmental impact will be the object of increased attention and will require innovative solutions.



In a few years, the elderly on the planet will outnumber the babies (under five years), a demographic trend that is not without consequences for the hygiene nonwovens.

SUSTAINABILITY is becoming *the* concern of the decade, all the more so now the world becomes a global village. It can be defined as the ability of humanity to ensure that it meets the needs of the present without compromising the ability of the future generations to meet their own needs. The issue is directly linked to a growing, wealthier population, which places more demand than ever on the planet's limited resources in terms of land, materials, and energy availability, not to mention the quality and availability of air and of water. The shift toward immaterial and emotional needs of a society whose more material needs are satisfied will further increase the importance attached by consumers to sustainable qualities.

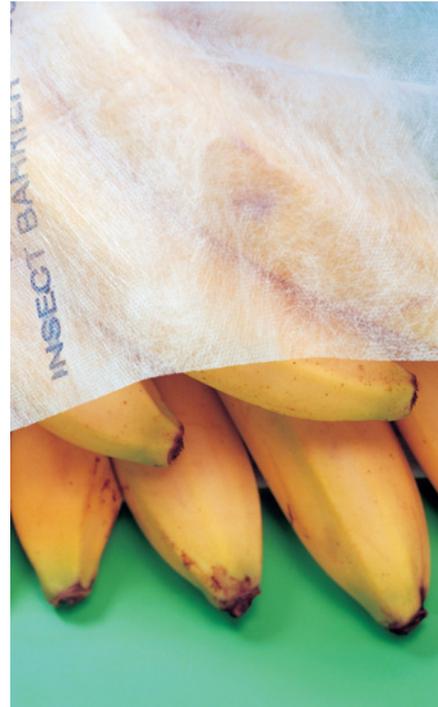
One major focus of sustainability is the currently observed climate change, attributed to the release of greenhouse gases. Without further environmental regulations and related actions, the annual emissions will be 50% higher in 2030 than in 2000. These emissions are largely attributable to the massive use of oil as a source of energy for transportation and for industry.

Besides potentially increasing the release of greenhouse gases in the immediate future, exploding energy demand in Asia and increasing global consumption place a higher burden on already strained resources: oil, an important raw material for nonwovens, is becoming more difficult to find and to refine.

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but also the environment*

Increasing energy demands, in particular in middle- and low-income countries, also heighten the environmental burden, for example in the form of air pollution in large Asian cities. These countries will have to place stringent environmental regulations on industry and transportation sectors, leading to an increased demand for air and water filtration systems.

For nonwovens, sustainability is a source of market opportunities more than a means to improve corporate reputation. Nonwovens contribute to making the world more sustainable: indeed they help improve and protect not only people's lives but also the environment. They hold the potential to provide even more innovative solutions to sustainability challenges.



Nonwovens can protect crops against insects, thereby eliminating the need for insecticides. By filtering out excessive UV light yet remaining sufficiently permeable to vapour, they also help control ripening, thus resulting in higher yields.

INNOVATION is the key to addressing the issues raised by stronger globalisation and a desire for sustainability. It can take advantage of the accelerating convergence of four technology groups: biotechnology, nanotechnology, materials technology, and information technology, expected to keep evolving at the same fast pace as in the last 50 years and with a shift of R&D intensity toward Asia, led by China.

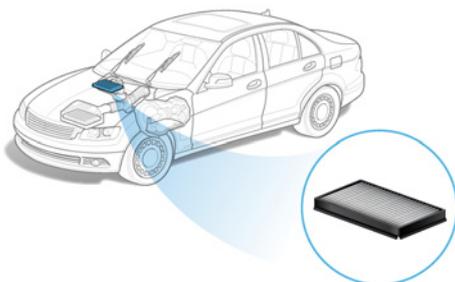
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Innovation is as much a challenge in itself as a way to address other issues. For example, ubiquitous access to information on the Internet, in particular through mobile devices, means more (but not always better) informed consumers, together with questioning about the composition of whatever they buy. These consumers can generate information about products and brands in online forums for other consumers to rely on, making it a challenge to control an organisation's reputation. At the same time, the information thus generated can be used to steer the development of products targeting a given market.

Innovation, in other words, becomes more open and prolific as customers and suppliers are drawn into a collective process together with companies. This collaborative effort will form or strengthen relationships with both customers and suppliers, but it is challenging to innovation processes already in place and to the protection of intellectual property rights. These are moreover increasingly difficult to defend and to enforce as technology simplifies reverse engineering and duplication, leading to shorter product cycles and higher innovation tempo.

Among innovation-related trends that are directly affecting the nonwovens industry is the growing global focus on health, driven by income growth, population ageing, new lifestyles (and their resulting disorders), health as a positive concept, and advances in artificially enhanced health and well-being. As a consequence, consumers will be increasingly sensitive to the chemical composition of nonwovens, but they will also focus on nonwovens for their ability to solve health problems, to improve health, and to help control healthcare-related costs.

A nonwoven air filter can prevent dirt, pollen, and other particles from entering a car's cabin via the climate control system. This innovation is beneficial to passengers' health, of course, but also to their safety in the car, for less dust results in more reliable electronic components.



Nonwoven air filter

NONWOVENS are innovative, high-technology fabrics engineered from fibres to exhibit specific properties (absorb liquids, retard flames, contain bacteria, etc.) and used across a wide range of applications and products, both at home and at work. In fact, nonwovens are so versatile and widespread that they are defined by what they are not: they are sheets of any type of filaments, formed into a web and bonded together by any means, but not woven or knitted.

Nonwovens have pervaded our lives. They may be engineered for a limited life or on the contrary form a long-lasting fabric. Used alone or combined to other materials, they are found in products without which we can no longer imagine living. They endow baby diapers and feminine hygiene products with their combination of light weight and high absorbency. As surgical gowns, they protect both patients and surgeons from infections. They make filters of well-defined properties, be it for a single-use tea bag or for a durable allergen barrier. In their less visible uses, they stabilise soils, control erosion, protect crops against insects, or selectively adsorb oil spills.

Nonwovens as consumers know them are the end products of a value chain that starts with the raw materials (currently, mostly oil for synthetic fibres and wood for cellulose fibres). The fibres, which need not be spun in yarns, are entangled into a web and bonded mechanically, thermally, or chemically. These bonded webs are typically produced in sheets or rolls, which eventually enter the fabrication of consumer products.

EDANA serves and represents the entire nonwovens value chain, from raw materials to converted products. Established in 1971, it has evolved to become a proactive international association, reflecting the changing dynamics of the nonwovens industry. Specifically, it creates an environment beneficial to innovation and sustainable and profitable growth of the industry players through the active promotion of sustainable development, consumer interests, and transparency. Among other services, EDANA supplies its members with the information and data they need to enhance their industry goals and performance.

With more than 220 members spread around the world, EDANA is proud to be the voice of nonwovens and related industries, helping make the world a better place—today and tomorrow.



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