CREATING PRODUCTS AND SERVICES

PRODUCT DESIGN AND INNOVATION

We believe that pursuing sustainability in product design leads to greater innovation and better performance for our customers.

We want to make products and services that are better for people, society and the environment. To achieve this, we seek to understand and manage the impacts of products throughout their entire life cycle, from the sourcing of materials all the way to recycling or disposal.

We support the development of industry tools and aligned approaches to solving sustainability challenges through various industrial and multi-stakeholder partnerships, such as the Sustainable Apparel Coalition (SAC) and AFIRM Group.

LIFE CYCLE ASSESSMENTS – AN ONGOING APPROACH

To improve the sustainability performance of our products, we approach their design from a life cycle perspective. Through Life Cycle Assessments (LCAs), we continuously investigate the environmental and social impacts of our products at each stage of their life cycle, and use the findings to inform a better, considered design and development approach.

Our first major LCA in 2011 assessed the GEL-KAYANO 17 running shoe, focusing on reducing its carbon footprint. In 2015, we carried out a social LCA scan of our GEL-KAYANO 21 running shoe to get a clearer picture of the risks involved and improve our management practices. The research was the first of its kind in our industry, and covered the assessment of auditing topics such as labor conditions, as well as broader community issues like governance, human rights and infrastructure.

In 2016, we took further action based on the findings by including them in our product sustainability indicators assessment. We will consider updating the research to gain insights for shaping our future product sustainability strategy in following years.

VALUE CHAIN

CREATING PRODUCTS AND SERVICES

SUSTAINABLE FASHION ONLINE COURSE

In 2016, we provided an online learning course to colleagues in our CSR, Apparel Development and Sourcing teams. Run by the Sweden-based Sustainable Fashion Academy (SFA), the course covered topics such as better material choices, managing chemical safety, labor standards in the supply chain, and sustainable design. Nine participants from Europe, the USA and Japan enrolled in six modules over a period of three months.

As a foundational course, it is relevant for all functions within our organization and is a good complement to our internal ASICS sustainability training. The course was very well received by participants, many of whom said that it had highlighted impacts of the product manufacturing process that they hadn't previously been aware of. They also said that they valued working together on project assignments. More colleagues will participate in 2017.

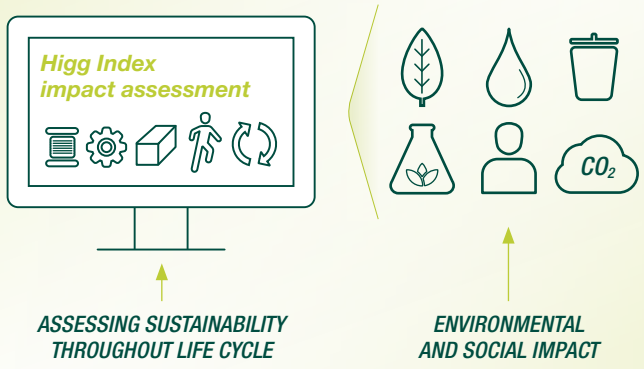
> *"Personally, I had a wonderful experience taking this course. My key learnings were to understand each process and the sustainable choices we can make as a group. I hope that we'll have more initiatives for more teams to get involved and learn more about what we can do to have less negative impact and still deliver high quality products."*
>
> **Apparel Design Director ASICS America Corporation**
> *Participant in the Sustainable Fashion Academy Spring 2016*

A SCIENTIFIC APPROACH TO SUSTAINABILITY IMPROVEMENT

For ASICS, scientific research is the starting point for sustainable product development. At the ASICS Institute of Sport Science, we carry out continuous research and development in our pursuit of innovative and sustainable materials and manufacturing technologies. Some of the areas we focused on during 2016 included improving product durability, bonding technology, and prototyping in order to conserve resources and reduce environmental impacts.

When we develop more durable or lightweight materials, we actively apply them in our footwear products to improve both their functionality and sustainability. We will continue to pursue research projects within our own ASICS Institute of Sport Science, as well as in collaboration with external partners, in order for sustainability to be a source of innovation in product development and manufacturing.

HIGG INDEX APPROACH



DEVELOPING AND IMPLEMENTING THE HIGG INDEX

Developed by the Sustainable Apparel Coalition (SAC), the Higg Index consists of various modules that allow for sustainability assessments to be carried out on a product, facilities or brand level. As a founding member of SAC, we have been involved in developing the product level Higg Index tools, and using those indicators to assess sustainability of our materials and products. As the product level Higg Index tools are developed, we are planning to fully adopt it into our product development process.

In 2016, we took part in the Higg Index Product Design and Development Module (DDM) pilot. This involved testing the tool with various types of footwear products from sports performance, lifestyle and business categories. Our footwear developers provided feedback about the tool's user interface, scoring structure and assessment method.

We also continued to use the indicators of the Higg Material Sustainability Index (MSI) and the Higg DDM to carry out regular sustainability assessments of our key apparel and footwear materials, and all categories of footwear products.

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PRODUCT SUSTAINABILITY RESEARCH PROJECTS IN 2016

CREATING PRODUCTS AND SERVICES

DYNAFLYTE: REDUCING WEIGHT AND CO_2

Every year, we carry out a range of R&D projects in order to continuously improve the sustainability of our products. Maintaining effective cushioning while simultaneously reducing weight is a key challenge in the development of running footwear, and one of the main areas we focus on in our research.

In 2016, in response to this challenge, we launched the DynaFlyte running trainer. Weighing less than 300g (size 9), DynaFlyte is our lightest-ever cushioning shoe.

The shoe achieves its lightness thanks to its full-length FlyteFoam midsole. This midsole foam material is about 55% lighter than the current industry standard, but is also about 8% more durable than the EVA material used in the GEL-KAYANO 21 running shoe midsole. Because of the improved material efficiency of the midsole, the production of each pair reduces CO_2 emissions by an estimated 10%, compared with our previous EVA midsole.

SHIFTING TO MORE SUSTAINABLE MATERIALS

As part of our commitment to driving sustainability in our apparel and footwear, we are shifting away from using virgin polyester in our fabrics toward more sustainable materials such as bio-based or recycled polyester.

As well as applying sustainable materials for our inline collections, we also use them for items distributed at ASICS–supported events. In 2016, this included souvenir and official volunteer shirts made from recycled polyester fabric for the Barcelona, Frankfurt, Stockholm and Paris marathons. We also provided jackets to volunteers and staff at the Tokyo marathon using a bio-based polyester fabric.

For the Olympic and Paralympic Games Rio 2016, we provided the Japanese team with shirts made from a 100% bio-based polyester fabric. Jackets and other uniform apparel featured 30% bio-based fabric.*

36,000
ITEMS MADE FROM RECYCLED OR BIO-BASED FABRIC SUPPLIED TO ASICS-SUPPORTED EVENTS IN EUROPE

100%
BIO-BASED POLYESTER SHIRTS

** ASICS is a gold partner (sporting goods) of the Japanese Olympic and Paralympic Delegation.*

CREATING PRODUCTS AND SERVICES

GUIDANCE ON BETTER MATERIAL CHOICES

In 2016, we aligned the ASICS Materials Guideline, which outlines ASICS' expectations around the use of specific materials of animal and synthetic origin in ASICS' products.

Although part of the content of the guideline have been common practice already within our material selection teams, written guidelines and training help to ensure we remain compliant with our better material ambitions and can act strongly in case of breach with our guidelines.

We will continue to review and update the guideline to ensure that we comply with laws and regulations and stimulate the application of more sustainable materials for future products. The guideline is an evolving document, and other material categories, certifications and labels will be included in future as necessary.

ASICS MATERIALS GUIDELINE FOCUS SUBJECTS

MATERIALS OF ANIMAL ORIGIN

- No use of Endangered or Exotic Species.
- Animal welfare to be respected and good animal husbandry shall be applied.
- No use of fur.
- All leather and skin shall be by-products of the meat industry.
- No down and feathers obtained through live plucking or from farms practicing forced feeding.
- Wool shall originate from suppliers who do not apply mulesing practices.

PVC

- ASICS continues to actively phase out the use of PVC. A small number of items in specific markets currently still contain PVC as alternatives are not available for all product applications and functions.
- Screen print inks used for ASICS products shall not contain PVC.
- "ASICS", "ASICS Tiger" and "Onitsuka Tiger" branded products shall not contain PVC. By now, more than 99% of all ASICS products are free from PVC.

VOC REDUCTION IN FOOTWEAR MANUFACTURING

Adhesives used in footwear manufacturing are often solvent based. When these adhesives are applied they emit volatile organic compounds (VOCs) which can have a negative impact on the health of suppliers' employees and the environment if their use in the workplace is improperly managed.

To reduce emissions of VOCs, we have been seeking to continuously increase the use of water-based adhesives in our footwear production volume for more than 10 years. Unfortunately, we have not been able to meet our ambitions in this area over this time. The strong growth of our business required the support of new suppliers with factories that often did not have the expertise and specific manufacturing lines to implement water-based adhesive use for our products, while maintaining our high quality standards.

We will continue to promote the use of water-based adhesives or other processes to reduce solvent use and VOC emissions in our footwear manufacturing process, and aim to set a new target of VOC emissions reduction in 2017. The ASICS Institute of Sport Science is carrying out research to develop better, more sustainable bonding technologies.