

VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei

Sustainable Manufacturing

Reducing the environmental footprint
of ID document production





“Considering sustainability being mankind’s most important heritage, it can also be seen as part of our planetary identity. Just as individual IDs are an expression of our personal identities, sustainable practices are part of and safeguard our common, global identity.

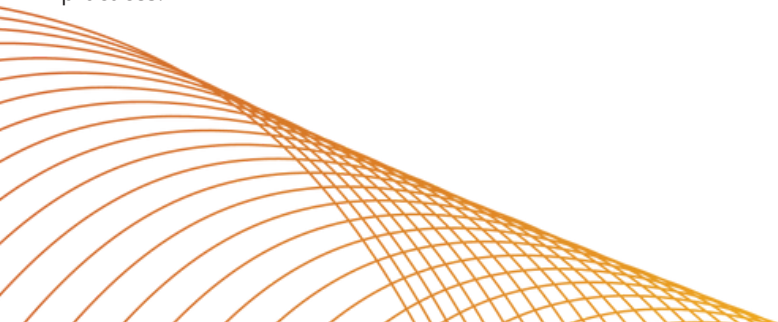
By nurturing sustainability, we’re not merely conserving resources; we’re preserving our collective narrative and act as stewards of both our planet and our identity as a society.”

*Tobias Nuessle
Chief Operating Officer*



THE IMPACT OF GOING GREEN ON OPERATING FACTORIES AND VICE VERSA

The importance of sustainability has experienced significant growth over the past few years, becoming a focal point in business, politics, and society. The imperative for sustainable business practices stems from a multitude of challenges confronting our global community. Various reasons underscore the necessity of embracing sustainable practices:



INTRINSIC INFLUENCES



Energy uncertainty and rising energy costs



Long-term economic benefits



Social and ethical dimensions: fair working conditions, social inclusion, etc.



Benefits for the environment: decreasing greenhouse gas emissions and mitigating climate change



EXTRINSIC INFLUENCES



Climate-conscious customers



Requirements from political guidelines



Climate neutrality as a requirement criterion for investors



Responsibility of states to act properly towards their citizens



In order to see how factories are impacted by sustainability thoughts, and in order to comply with sustainable practices in the operation of factories, it is recommended to explore the five pillars of Green

Factories

Logistic and Location



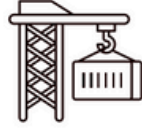
- Selecting a strategic location for a factory is key for a cost-effective supply chain
- Just-in-time (JIT) inventory system to minimize inventory levels and reduce the frequency of trips

Energy Efficiency



- The goal is to achieve optimal output with minimal energy consumption For that, the following can be used:
- smart machinery, automated processes, energy conscious production lines, use of renewable energy sources, vehicle efficiency

Building and Construction



- Using high-performance insulation and glazing can help minimize heat loss in the winter and heat gain in the summer
- Installing solar panels and efficient HVAC equipment Effective building automation systems and energy efficient lighting systems

Machines and Plant Processes



- Upgrade equipment to more energy-efficient models to reduce energy consumption and costs
- Efficient Shift Management • Optimize the plant layout to reduce the distance travelled by employees and materials
- Predictive maintenance and monitoring systems

Waste and Recycling Management



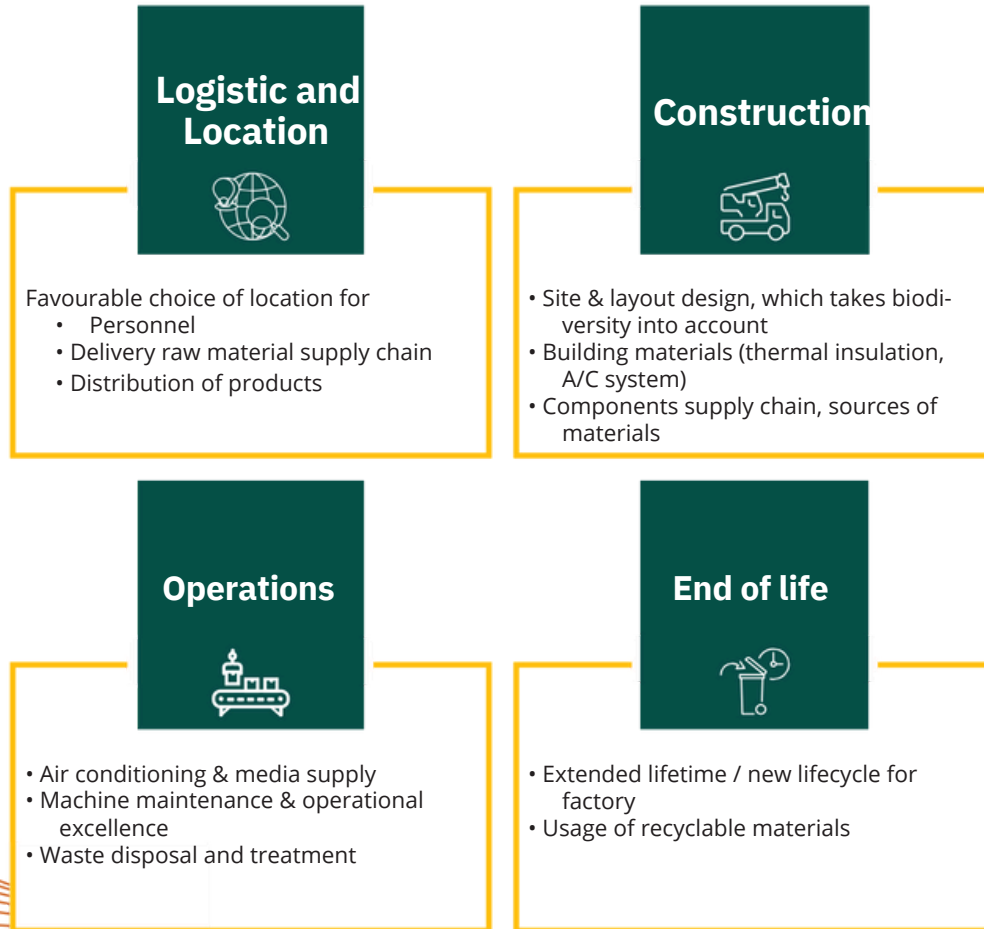
- Reducing waste at the source by using reusable materials for packaging, and implementing recycling programs for paper, plastic, and further packaging waste
- Training employees on proper waste disposal
- Partner with companies that provide sustainable waste treatment

As delineated in the five pillars of green factories, adopting sustainable practices entails substantial changes in factory operations. This is particularly pertinent considering that, in 2021, the buildings and construction sector was responsible for 37% of global CO2 emissions, related to energy and processes, along with exceeding 34% of the total energy demand. Moreover, the building sector's impact extends beyond emissions, affecting global resources such as water and raw materials. The sector consumes 15% of global water resources, and 40% of Earth's raw materials.

Accordingly it can be stated, that the operators and builders of factories should be aware of the consequences of their practices and should take action, if there is potential to reduce emissions. Of course, only to the extent that building security can always be guaranteed.

We at Veridos are also fulfilling our obligation by enacting solutions for emission reduction in our factories. This is important, because the desire for green documents also requires green factories. In this regard, there is even a regular G+D group-wide dialogue on factory planning best practices to ensure a constant exchange of knowledge.

Following measures can be implemented or are considered in our Veridos factories as a key for a sustainable footprint:



It is evident, that the reduction in emissions, resulting from our initiatives at Veridos, may not singularly impact climate change significantly. Let's bear in mind that in 2022, 57.4 gigatons of CO2 equivalent were emitted by the whole world! However, every step towards sustainability, regardless of its scale, contributes to a healthier environment. Every measure is needed. Therefore, we at Veridos also set up the so called "Impactful ID initiative". We hereby emphasise our intentions and describe concrete measures of how we are implementing the concept of sustainability in ePassport production. For more information, please visit www.veridos.com/environment

2 GOING GREEN IN THE BUILDING SECTOR – COST-INTENSIVE OR COST-SAVING?

When planning to build a sustainable and environmentally compatible factory, the question, if a higher level of sustainability goes hand in hand with higher construction costs, quickly arises. The GERMAN SUSTAINABLE BUILDING COUNCIL (DGNB) states that higher sustainability standards can be achieved with 1 to 6 % additional building cost. British Assessment surveyed, that construction costs of sustainable buildings are around or at least 2% higher compared to non-green construction projects.

However, the scenario shifts significantly when considering savings from completed, green buildings. Studies have concluded, that the operation of sustainable buildings can save an average of 14% of total lifecycle costs with a rising trend in the following years. This can be attributed to the use of renewable energies, implementation of more energy-efficient machine installations etc. (see five pillars). On top of that, further advantages can be noted: having a higher income when renting or selling the building/factory (if necessary), easier documentation and certification for quality assurance, owning future proof assets etc. Consequently, it can be deduced, that although the initial construction of a green factory might entail supplementary costs, these investments are gradually recouped through efficiencies realized in day-to-day operations.

As a company that can demonstrate future-proof planning approaches, efficiency, correct use of resources and a positive public image, we are happy to support you in finding ideas for a more sustainable passport production. Please feel free to contact us!

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About Veridos, G+D & Bundesdruckerei

Veridos GmbH is a world-leading provider of integrated identity solutions. Governments and public authorities in more than 100 countries trust the company's uniquely comprehensive product portfolio. The company creates end-to-end solutions and services perfectly tailored to meet every government identity need. These range from paper to security printing, electrical chip components, enrollment, identity management systems, personalization and issuance, mobile ID solutions, and border control solutions including eGates. Governments can acquire best-in-class passports, ID cards, driver's licenses, and more, or even the facilities to manufacture their own.

This fast-growing German company pools the expertise of its shareholders, Giesecke+Devrient GmbH and Bundesdruckerei GmbH. Veridos and its customers benefit from this strong tradition of innovation, heritage, and natural synergies. Headquartered in Berlin with an office in Munich, today Veridos employs approximately 900 employees worldwide. These include subsidiaries, production sites, and local representatives everywhere from the United States to Canada, Mexico, Greece, the United Arab Emirates, and beyond.

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All technical data subject to change