

Sustainable Automation Journey

By WAKU Robotics

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How to read the handbook	4
Introduction	5
Transformation Triangle	6
Expectation Triangle	8
1 - Society	11
Welcome to the VUCA World	11
Demographic Change	12
Urbanization	13
Information & Knowledge Society	14
Diversity	14
Individualization	15
New Work	16
Connectivity	17
The Megatrend of Neo-Ecology	18
CSR Strategy & ESG Regulations	19
Resilience and Service Expectations	20
2 - Organization	20
Sustainable Development Goals (SDGs)	21
Starting with ESG Reporting	24
Provide An Inclusive Work Environment	25
Offer Mentor-Mentee Programs	26
Take and Give Feedback	27
Offer Transparent Insights	27
Digital & Sustainable Leadership	28
Collaborating With The Works Council	28
Offer Employee Training	30
Allow Space for Experiments	30
Tomorrow's Competitiveness	31
Green Finance & Bonds	32
Commit to Renewable Energy	32
Green Supply Chain	33
Zero Waste Operations	34

3 - Workforce	34
Adapt Skill Set	35
Be Open to Learn	35
Feedback Culture	36
Participation in Mentoring Programs	36
Shift of Responsibility	37
Demand for Transparent Communication	37
The TRANSFORM Principles	38
Invest in your employees	39
Listen to the People	39
Appreciate Diversity	40
Identifying unhealthy tasks	41
Working alongside Robots	42
Scale down responsibly	43
Communicate change transparently	44
Decouple economic growth from environmental degradation	45
Take Action!	47
Create SMART Goals	47
Establish the Transformation Team	48
Action Points for Management	49
Action Points for Human Resources	50
Action Points for Marketing	51
Action Points for Innovation Management	51
Action Points for Operations Lead	52
Action Points for the Leading Technicians and IT Personnel	53
Action Points for the Workforce	53
Track your progress	54
Make change a habit	55
Talk about your Transformation	55

How to read the handbook

The *Sustainable Automation Journey* was written to give organizations, especially in logistics and manufacturing, the opportunity to understand the upcoming challenges and trends. It also aims to act as a guide on the journey to automate operations in a sustainable way.

To better understand the dynamics and processes that influence this big change, we created the *transformation triangle*. The triangle names three important parties that play together and influence each other - *society, organization, and workforce*.

After introducing the three parties, we go deeper into the current trends, expectations, and potential initiatives of these three players. We discuss topics like environmental, social, and corporate governance (ESG) reporting for organizations, major trends, and developments in society that influence people and organizations as well as important topics concerning the working culture that employees experience.

We will sum up these ideas in the TRANSFORM principles which conclude the topics discussed in society, organization, and workforce chapters and help you to better understand what to do and how to do it.

After that, it is time to put the TRANSFORM principles into practice. The *Sustainable Automation Journey* will end with concrete and tangible action points for all departments of a company that are involved in the transformation process.

Introduction

Technology and nature are not opposites. With technology, new opportunities for environmentally friendly living and consumption are created, and sustainability becomes the new quality of life.

The former understanding of sustainability is based on guilt as humans are seen as harmful to the environment. Therefore, the damage must be compensated as far as possible, and it is inevident that we change our mindsets: With the *Sustainable Automation Journey*, we offer an opportunity to detach from the former world salvation idea through waiver and to pave the way to consumption that is ethically correct, fun and sustainable at the same time¹. To bring about meaningful change, we propose a holistic approach, including the United Nations (UN) Sustainable Development Goals (SDGs), digital and sustainable leadership, and the TRANSFORM principles of robot automation.

Our definition of sustainability is based on three pillars which can be shortly called as people, planet, and profit².

Social sustainability (people) refers to fair payment, the implementation of the interests of the employees as well as the protection of human rights (e. g. in the case of exploitation or child labor). If done well, sustainable automation will benefit the employees of a company as it ensures a healthy working environment and sets the basis for personal development and social inclusion.

Environmental sustainability (planet) describes the conscious handling of natural resources, especially water, energy, and finite raw materials. Aiming to protect our ecosystems and to promote biodiversity, it is the livelihood of many and should be treated as such.

¹ "Megatrend Neo-Ökologie." 2022 *Zukunftsinstitut GmbH*.
<https://www.zukunftsinstitut.de/dossier/megatrend-neo-oekologie/> (accessed 02/06/2022).

² Enquete-Kommission "Schutz des Menschen und der Umwelt". *Konzept Nachhaltigkeit, Vom Leitbild zur Umsetzung*. Bonn: Bundesanzeiger Verlagsgesellschaft mbH, 1998.
<https://dserver.bundestag.de/btd/13/112/1311200.pdf>.

The third pillar, economical sustainability (profit), relies on excellent strategic management so that profit can be used for investing in modern machines, new employees, and further education. The basis of sustainable participation in the market, economical sustainability is as important as social and environmental sustainability.

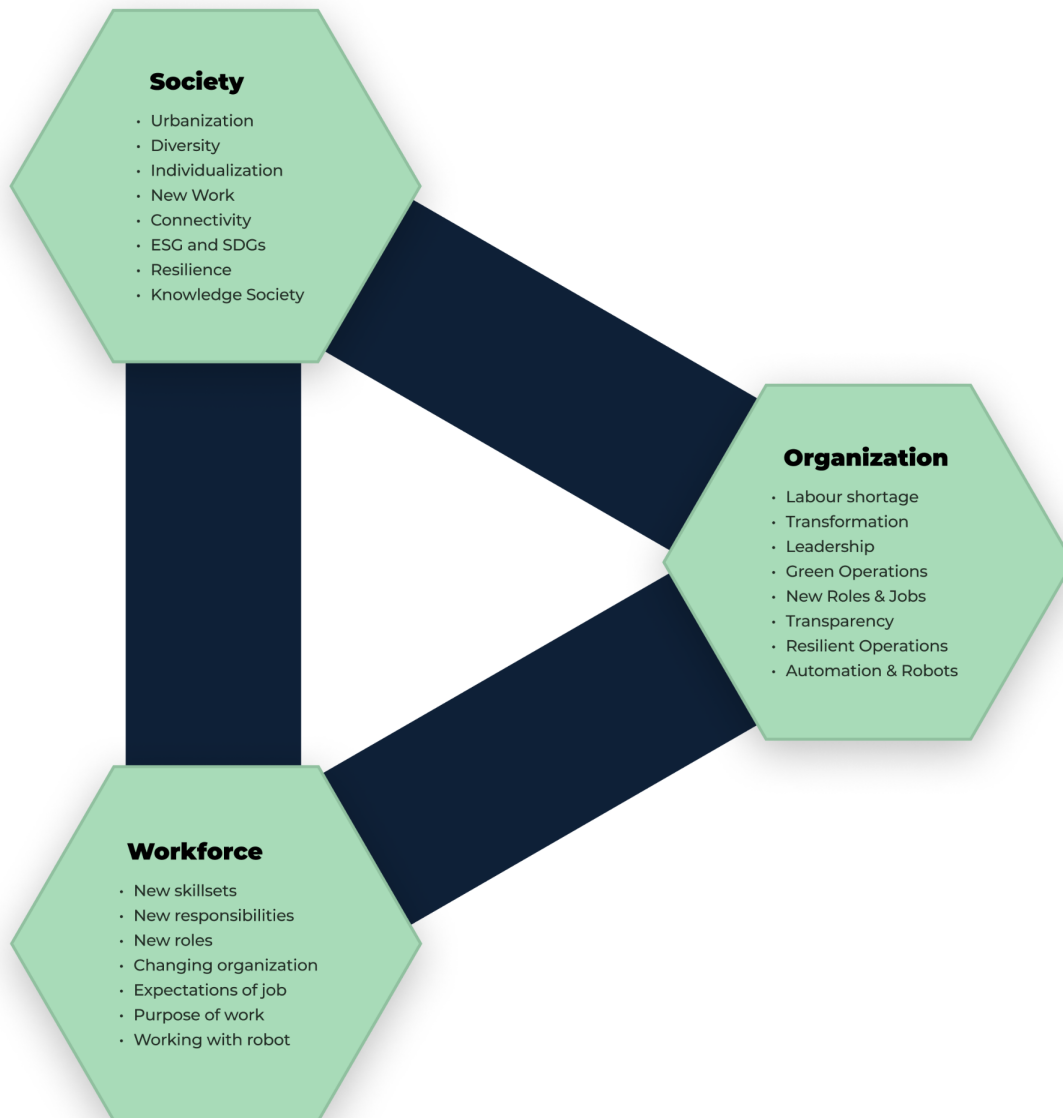
Transformation Triangle

The *transformation triangle* illustrates three parties that influence each other in terms of the automation process, society, the organization as well as the workforce. All of them follow certain interests, of which some are mutual, and some of them are contrary; this causes a situation, where compromises or a regulatory framework are needed.

Society is the term we use for collating the stakeholders of a company, like the employees, the customers, institutions, or business partners, and their expectations on both working conditions and the way of economical development. By using the term *society*, we are indicating the development of a new collective thought that is changing organizations' environment and disrupting the industry.

Organization is the term we use for the sum of processes inside a company. Due to the upcoming transformation, some of these processes will outgrow and need to be modified to ensure that the company is able to sustainably compete in the market. In this handbook, you will find a proposition to a new reality and opportunities to actively participate and shape the change as well as the responsibility that comes with it.

Workforce is the term we use to describe the actual and potential employees of a company. It is your role as a company to provide an environment for personal development and learning in your organization so that the workforce is able to actively shape the transformation, too.



Transformation Triangle (source: WAKU Robotics GmbH)

For being competitive in the future, organizations need to comply with sustainability measures and offer their employees a pleasant working environment, for example by

implementing responsible leadership, by working transparently, or by creating new roles within the company.

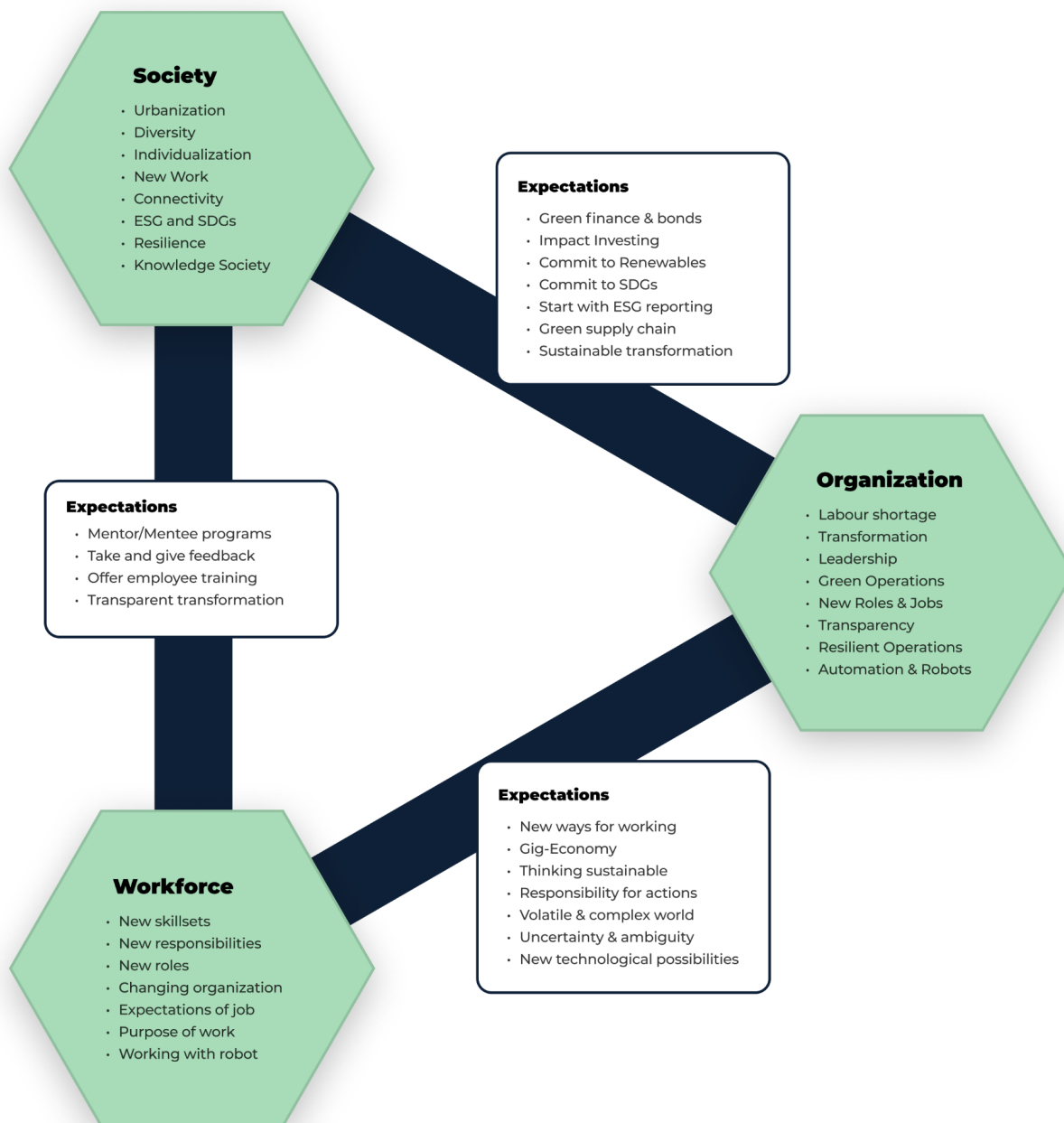
Society, on the other hand, needs functional and solid businesses creating wealth and ensuring supply. However, only if all three pillars of sustainability are addressed in the operational and strategic objectives of a company, the organization is able to fulfill the needs of the society around it, like resilient supply chains, finding strength in diversity, and acting upon environmental, social and governance (ESG) policies.

The workforce is a direct subset of society, depending on jobs and the wealth that is created through organizations, too. Regulatory frameworks coming from society (politics) will change the economic environment drastically and influence how organizations are operated. These changes will also impact the workforce of the organization directly, for example in regards to the operational environment (working with robots), new responsibilities as well as the purpose of work.

The number of dependencies and implications are countless. Therefore we mapped the most significant expectations in the *expectation triangle*. If all three parties are aware of the impact they make, it is possible to collaborate and change our way of working to create a sustainable future for all.

Expectation Triangle

The *expectation triangle* depicts both the needs and expectations that all involved parties have as well as the trends they follow. It also shows which actions are derived from the expectations of the other parties. It thus builds the basis for the *Sustainable Automation Journey*.



Expectation Triangle (source: WAKU Robotics GmbH)

Society brings up new trends and tendencies. Currently, it expects the organizations to apply energy-saving measures, use renewable energy, protect human rights when it comes to the workforce as well as commit to the Sustainable Development Goals of the UN. The workforce's expectations towards the organization can be concluded

as transparent communication of the transformation process, a healthy working environment, and job safety.

The organization itself needs to react to the influence coming from outside (workforce and society). Society offers regulatory frameworks and financial incentives for this kind of transformation, e.g. through green bonds. If the organization is willing to shift towards sustainability and starts with ESG reporting, it will get more attractive to investors. However, the organization places its expectations on the workforce, too. This includes, for example, the workforce adapting by learning new skills, responsibilities, and roles. Indeed, the workforce plays an active role in this transformation process.

1 - Society

This chapter describes the viewpoint, trends, and impulses that come from crucial stakeholders of your company: society. The society describes the environment around your organization including your employees, customers, institutions, and business partners.

The influence of society on your organization can range from regulations and expectations to trends. This makes it really important to understand all of the input coming from society.

Welcome to the VUCA World

We are living in a time of rapid change concerning digitalization, demographic change, and other trends cycling around in our society. Therefore, organizations need to adapt to the new circumstances in which we are working, and managers need to operate in new ways to still successfully lead their teams. These challenges are described by the acronym VUCA³:

Volatility (rate of change)

Uncertainty (unclear about the present situation and future outcomes)

Complexity (multiplicity of key decision factors)

Ambiguity (lack of clarity about the meaning of an event).

These unstable conditions might easily put your company's success under threat. That is why it is important to create a secure and enabling environment inside your organization, with IT as an innovation driver, to actively steer the company in the direction of your goals. With increased automation, improved communication and self-monitoring, your company will become more resilient. Being aware of these

³ Bennis, Warren and Burt Nanus. *Leaders. The Strategies For Taking Charge*. New York: Harper and Row, 1985.

insecure market conditions is key to starting to engage your employees and perform the best in the VUCA world.

Demographic Change

Due to a higher life expectancy as well as a low birth rate, our society is aging. Therefore, our workforce is getting smaller and smaller with the logistics market steadily growing. To be precise, in OECD countries there will be a shortage of 55 million workers in the next 10 years. Consequently, according to Rainer Strack, member of Boston Consulting Group and one of the leading minds of human resources in Germany, workforce planning will be more important than financial planning⁴.

Additionally to the demographic change, the demand for local production as well as the upcoming trend to e-commerce requests more logistics and, therefore, more personnel. At the moment, the pressure during daily operations in logistics companies is already high, and finding skilled workers is, indeed, a huge issue to many.

The way contract logistics works is, however, transforming to companies with IT competences in operational processes. The new narrative is defined by progress, inclusion, and a positive mindset, and it explains the necessity of working with robots: Every single employee and their capacity as human is an invaluable asset. Organizations need to realize an appreciation culture to attract and retain qualified people.

Rainer Strack talked about the topic of the global workforce crisis where he revealed the top job preferences from people worldwide: appreciation for one's work, a good

⁴ "The workforce crisis of 2030 - and how to start solving it now." *TED Conferences, LLC*.

https://www.ted.com/talks/rainer_strack_the_workforce_crisis_of_2030_and_how_to_start_solving_it_now (accessed 08/06/2022).

relationship with colleagues, work-life-balance, and a good relationship with the superior. An attractive fixed salary would come in eighth place, meaning that “people look for recognition”, and companies are challenged by creating means of education, qualification, cross-cultural management, and upscaling⁵.

Urbanization

The trend of urbanization started in developed countries, first. More and more people have been moving from rural to urban regions, mainly due to industrialization and digitalization. Cities and urban areas were seen as the places where progress happens and wealth was created. After that, this trend has also started in developing countries.

The impact of urbanization is manifold and ranges from very positive to very negative for society and nature. On the one hand, with higher income levels, the need for an eco-friendly lifestyle occurs, which drives R&D efforts to make urban areas smarter and greener. Also the effort to transport people can be streamlined and more accurately predicted. Studies show that people in urban areas tend to have a lower birth rate than people in rural areas.

On the other hand, a lot of processes that are now centralized are getting more and more complex, for instance when it comes to infrastructure or food supply. Also the costs of living as well as other costs tend to explode because the demand for a specific good or service gets really high. This could cause a larger gap between the poor and the rich and as a result, it makes life in urban areas an exclusive privilege.

⁵ “The workforce crisis of 2030 - and how to start solving it now.” *TED Conferences, LLC*.

https://www.ted.com/talks/rainer_strack_the_workforce_crisis_of_2030_and_how_to_start_solving_it_now (accessed 08/06/2022).

For companies, that means that they have to rethink their supply chains and storage solutions. Since the storage capacity in urban areas is limited, other approaches are needed.

Information & Knowledge Society

The trend of information society is now very mature. In this kind of society, information is used as a resource to improve the quality and access of data for individuals and institutions. But this information can also include alternative realities, fake news, and other misleading information. The most important point of this kind of society is that they generate, collect, and share information actively.

On top of that builds the knowledge society. Information is translated into knowledge and used to improve the lives of people, the expenditure of energy, monitor nature, and bring knowledge to people quickly. This becomes also important for supply chain and logistics companies. Knowledge about important routes, partners, and other parts of the business can be monitored in real-time (through smart industrial IoT devices), and smart conclusions can be drawn from this.

Diversity

Considering diversity at work is important to understand and analyze team dimensions, recognize privileges and prevent stereotyping as well as tackle issues like discrimination or the gender pay gap.

According to Loden and Rosener's *Diversity Wheel*, there is an internal dimension that is connected to the personality of a person and that cannot really be influenced, and there is an external dimension that is mainly a consequence of personal decisions. Both are layers of diversity that influence collaboration and decision-making. The internal dimension concerns age, gender, sexual orientation,

mental and physical capability, nationality and ethnicity, and social class background while the external dimension is connected to personal and recreational habits, the geographic location of a person, the religion or worldview, appearance, marital status, the educational background, income, and work experience.⁶

To provide equal opportunities for everyone, it is important to also be aware of intersectionality - a tool that helps to understand “the ways that multiple forms of inequality or disadvantage sometimes compound themselves” (Kimberlé Crenshaw, American Civil Rights Advocate Professor)⁷. It offers a perspective to provide more equity (meaning: to give everyone what they need to be successful) and can help shift the focus on competencies and the potential of people.

Individualization

Individualization describes the process of individualism. The idea of individualism is to embrace the intrinsic worth of the individual. Instead of being just a member of a herd or group, individualism requires self-reliance and independence from individuals.

One core element of individualism is autonomy. In contrast to the past, where institutions were the only source of information, and norms were the only way to live a virtuous life, nowadays, information is democratized, and institutions lose their standings. The created wealth and a higher educational level lead to a higher degree of autonomy for the individual.

The autonomy results in the pluralization of lifestyles which is supported and accelerated through technological progress. Since humans are more aware of the fact that they can shape their own lives, they also demand this from their employers.

⁶ Loden, Marilyn and Judy B. Rosener. *Workforce America! Managing employee diversity as a vital resource*. New York, NY: McGraw-Hill, 1991.

⁷ “Kimberlé Crenshaw: What is Intersectionality?.” *YouTube*.
<https://www.youtube.com/watch?v=ViDtnfQ9FHc> (accessed 10/06/2022).

For employers, this means that they have to develop their employees individually. Different people mean various requirements but also different expertise for the employer.

New Work

The term “New Work” became very popular and refers to a new way of working in a digital society. These measures and methods to implement “New Work” are manifold.

According to a survey from BCG, 68% of workers around the world – blue and white-collar alike – are willing to retrain and learn new skills⁸. Workers nowadays care more about purpose, certainty, and belonging than ever before. Also, a shift from qualification-focused hirings to skill-based hirings can be seen. The role of the organization shifts to an enabler role, too - enabling employees to be successful within the company. Life-long learning and the environment to do so becomes a key element for organizations. The World Economic Forum calls this: “The Great Relearning Revolution”⁹.

One central element of New Work is to break down hierarchies. With this, it also redefines the known ‘career ladder’. One interpretation of the philosophy of New Work is: “Wherever someone can deliver more value for the organization, the employee should go in this direction.”

Also, when it comes to workplace situations. The trend to do more home office emerged during COVID-19 and will not simply go away. Hybrid forms of working in

⁸ “6 Strategies to Boost Retention Through The Great Resignation.” *Harvard Business Review*. <https://hbr.org/2021/11/6-strategies-to-boost-retention-through-the-great-resignation> (accessed 11/06/2022).

⁹ “Navigating ‘The Great Relearning’ revolution.” *World Economic Forum*. <https://www.weforum.org/agenda/2022/01/how-to-navigate-the-great-relearning-revolution/> (accessed 11/09/2022).

the office and from home are more popular than ever. If it is needed, employees meet for coworking physically or in virtual environments. Companies are also testing satellite offices in small towns to reduce the traveling effort. Another option is the creation of an open space office. In this kind of office space, employees meet for creative sessions, meetings, or ideation sessions.

Flexible working time models are also crucial to New Work. Trust working hours, flexible working hours, or individual working times (e.g. for family members) should be taken into consideration. The number of sabbaticals (some months off) is also emerging. Employees use these sabbaticals to travel the world, for self-realization or to be together with their families. Employees that are coming back to work from their sabbatical can bring more energy and are happier after their time off.

Besides the things mentioned above, New Work holds numerous opportunities to explore for every organization.

Connectivity

More and more smart devices are coming to life, and this is not just about smartphones. Sensory, smart controllers and other devices need to be connected. Smart homes and smart cities are the main trends that drive connectivity forward. All of these smart devices need to be available online to share data and to optimally decide what to do in order to save resources like energy or water.

However, connectivity is more than that. It means that through the internet, people are connected everywhere and anytime. Connectivity is the booster for information flow and messaging. It allows all nodes in the network (be it humans, an organization, or a device) to communicate in real-time.

These improvements and changes have a huge impact on all nodes in the network - mostly humans and organizations. Organizations are just another node in the

network, living in their ecosystem and contributing to it. It requires them to make their ecosystem visible. When it comes to digital transformation, we are just at the beginning of it. Through the megatrend of connectivity, it is possible to accelerate digital economies that, for instance, are based on blockchain.

The Megatrend of Neo-Ecology

The megatrend of neo-ecology will shape the coming century like no other trend. According to its name-giver *Zukunftsinstitut GmbH*, it is about “environmental awareness and sustainability that are increasingly advancing from an individual lifestyle and consumer trend to a social movement - and to a central economic factor influencing all corporate spheres. [...] The megatrend is redefining the values of global society”¹⁰, and it will shape how we live and how we work.

Sustainability means smarter, not less. With regulation around sustainability and the climate crises that we face, sustainability and neo-ecology will become the new identity of all humans. Where sustainability is the goal that we want to achieve, neo-ecology alters the rhetoric from sacrifices and doom and gloom to a more constructive mindset, where humankind is “neither the destroyer nor the possible savior of our planet [...] but part of the diverse, resilient, self-organizing system earth”¹⁰ - the attitude we need to tackle this challenge.

Neo-ecology also redefines the term we call *growth*. The economy has the task to serve society. Based on that, some of the indicators to measure growth need to be considered in a new way, for instance, the Gross Domestic Product (GDP). Additionally, some new indicators are on the way with ESG reports and other sustainability measures. Some of them are not specified and quantified, yet. But politics and society agree that ESG, for instance, will play a crucial role in the future of our economy.

¹⁰ “Megatrend Neo-Ökologie.” 2022 *Zukunftsinstitut GmbH*.
<https://www.zukunftsinstitut.de/dossier/megatrend-neo-oekologie/> (accessed 02/06/2022).

CSR Strategy & ESG Regulations

Some issues that have helped to focus on sustainability matters are vulnerable supply chains and climate change. Companies as part of society need to address these issues. More than that, stakeholders expect to see companies transform as the sustainable operation is normalizing.

Corporate Social Responsibility (CSR) is the voluntary contribution of a company with the aim of acting responsibly towards employees, the environment, the market, and society. It can be seen as a general sustainability framework that creates a responsible approach toward all stakeholders. Environment, Social, and Governance (ESG) regulations quantitatively capture the holistic approach of CSR and focus on a sustainable and effective corporate policy.

Especially investors want to see organizations acting upon ESG regulations - regarding their long-term performance, workforce management, and the possible risks that can be foreseen with ESG. This is also emphasized by Nadja Picard, Global Reporting Leader at PwC Germany: "Companies need to be trusted by their customers, companies need to be trusted by their employees, and companies need to be trusted by their investors, for various reasons: They want to hire the best talents, they want to sell their product, possibly in a value chain, and they want to attract the best investors to help them with their growth ambitions and then business performance"¹¹.

ESG shows the increasingly relevant social aspects in investment valuations, which are now as important as the financial aspects and should therefore be carried out as detailed and as focused.

¹¹ "ESG - how can we measure how 'good' companies are?." *World Economic Forum*. <https://www.weforum.org/podcasts/radio-davos/episodes/esg-how-can-we-measure-how-good-companies-are> (accessed 24/06/2022).

Resilience and Service Expectations

Especially after the Coronavirus pandemic, society has become more aware of the fact that supply chains and logistic processes need to be resilient. The pandemic situation forced us to take measures like shutdowns or reprioritizing supply chains. These measures revealed drastic problems in supply chains and logistics everywhere.

People inside logistics companies, but society, too, have been starting to rethink the structure and processes in supply chains. The new awareness, especially in the western world, brings the potential to cause a different perception regarding logistic processes: The question of how these processes are handled in case of a pandemic situation, a war, or other events that have the potential to shake up supply chains, has arisen.

Current trends like the growing eCommerce and *Qcommerce (quick commerce)* are huge drivers when it comes to service expectations. Customers expect to get their goods in time. However, there is also a trend to bring back the local production of goods. This can result in shorter ways for production logistics as well as for distribution logistics.

These different trends will influence supply chains and restructure current processes. For organizations in the area of logistics, these trends are more than relevant to watch.

2 - Organization

At the heart of a journey into a sustainable and automated future of logistics and supply chain is the organization itself. This chapter addresses organizations on their journey into a sustainable and automated future.

New regulations, new expectations from customers, society, as well as the workforce, new options to finance a green future, and more - all of these new influences are hitting companies in this field and disrupting the industry.

In this chapter, we want to discuss this new reality and options to compete in this changing environment. We focus on the structure, culture, financial possibilities, and reporting of Environment, Social and Governance (ESG) and Sustainable Development Goals (SDGs).

Sustainable Development Goals (SDGs)

Something really important for organizations is the commitment to the Sustainable Development Goals¹² designed by the United Nations. There are 17 goals ranging from 'No Poverty' to 'Peace', 'Justice', and 'Strong Institutions'. Each organization can contribute differently to these goals - depending on the industry where they are working in.

With the focus on logistics and manufacturing, we selected five goals of the SDGs, that are most obvious and where you definitely can contribute to. SMART objectives (specific, measurable, achievable, relevant, and time-bound), a tool created by George T. Doran in 1981, can help you with reaching these goals in your own organization. This handbook also provides a section on creating SMART goals in the chapter 'Take Action!'.

¹² "Do you know all 17 SDGs?." *United Nations*. <https://sdgs.un.org/goals> (accessed 11/06/2022).

SUSTAINABLE DEVELOPMENT GOALS



The Sustainable Development Goals¹³

SDG 4 - Quality Education and Life-Long Learning. This SDG is very attractive for organizations since it has a lot of potential to develop employees. Provide quality education to your employees and if possible, create possibilities in your community to impart education. Propagate the goal of lifelong learning in your organization and make it a habit to learn new things. This can be achieved with mentor-mentee programs, different types of seminars and workshops, starting with seminars to bring information and communication technology (ICT) skills to your employees. Make sure to take measures in such a way as to enable the organization as well as the employees to apply the new knowledge in their everyday lives.



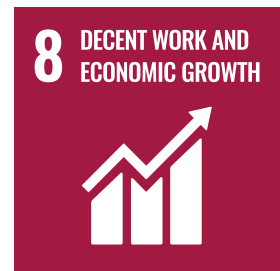
¹³ "Communications materials." *United Nations*.

<https://www.un.org/sustainabledevelopment/news/communications-material/> (accessed 14/07/2022).

SDG 5 - Gender Equality. The achievement of gender equality and the empowerment of women and other finta* persons (female, inter, non-binary, trans, agender and other non cis-male) is a promising opportunity for your organization. In fact, you can decide right now to create a tolerating and enabling work environment and, consequently, attract more employees, especially young people. We recommend hiring finta* persons in managerial positions who can be role models for others in your organization. Programs to better educate finta* persons on management skills and to foster their personal development will accelerate this process. It is important to not forget that men are also part of this change. If you create programs to achieve gender equality, men should also play their role. Besides, with (robot) automation it is not important anymore if someone can lift 10kg or 40kg or how tall they are. On the contrary, regardless of gender, everyone can begin working in the logistics industry now.



SDG 8 - Decent Work and Economic Growth. This goal proposes two ideas. First, it tackles the topic of a decent work environment and conditions, and second, it deals with how to decouple economic growth from environmental degradation. The first part includes topics like protecting labor rights, equal pay for all, including people with disabilities, and all measures that you can take to make your environment fair for everyone. The second part of the SDG can be summarized as follows: By using sustainable and technological upgrades, your economic growth will be ready for the future.



SDG 9 - Industry, Innovation, and Infrastructure. This goal says: “Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation”¹⁴. The focus lies on sustainable and smart infrastructure. Besides, the goal ensures that prosperity is shared



¹⁴ “Do you know all 17 SDGs?.” *United Nations*. <https://sdgs.un.org/goals> (ac

for all and no one is left behind from benefiting from industrial growth. One target (number 4) of this goal demands upgrading all industries and infrastructures for environmental compatibility¹⁵. This means that, particularly, all old economies and industries need to adapt to make their operations sustainable.

SDG 12 - Responsible Consumption and Production Patterns. SDG 12 is about the efficient use of natural resources, which means domestic material consumption and material footprint including waste that productions create, for example, chemicals. This SDG proposes a reduction of waste generation through prevention, reduction, recycling, and reuse.



Starting with ESG Reporting

For some companies (mostly large or public listed companies) it will become mandatory to do ESG (environmental, social, and governance) reporting. Whether or not this is mandatory for your company, you should start. One reason is that some of your stakeholders will require it in the future anyway. Another reason is that it gives you valuable insights into your company and will help you with communicating change.

To do ESG reporting, you start by gathering information within your company. Nearly all departments are involved in this process. The positive side effect: All the involved employees' awareness concerning the ESG topic will increase in collecting these data.

Evaluating reporting frameworks is the next step on the path to ESG reporting. Some standards out there can fit your organization, like the Global Reporting Initiative (GRI), the Corporate Sustainability Reporting Directive (CSRD) or the Sustainable Financial Disclosure Regulation (SFDR). After choosing a framework, make sure that you communicate transparently and create SMART objectives (specific, measurable,

¹⁵ "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." *United Nations*. <https://sdgs.un.org/goals/goal9> (accessed 10/07/2022).

achievable, realistic, and time-bound), a tool created by George T. Doran in 1981 (see “Take Action!”).

The final ESG reporting is one part of the story. To make it plausible for those assessing your reporting, it is important to outline how your ESG goals and reporting are aligned with the strategy of your organization.

Provide An Inclusive Work Environment

Teams are getting more and more diverse. And it pays off. It is proven that teams that are diverse in internal and external dimensions (see Chapter 1 Society, Diversity) take more different perspectives and experiences into account when making a decision. An inclusive work environment is created by the ability to understand and accept that our differences in preferences cause different behaviors and value systems. Besides, it is driven by the ability to leverage that diversity in terms of bringing different age groups, ethnicities, abilities, or work experiences within an organization together.

Potentials of more diverse teams lay for example in a reduced tendency towards groupthink and group ethical decision making as well as the synergetic effects of the individuals' positive trait-like states like optimism, hope, efficacy, and resilience. Of course, there is also a risk of weaknesses in the beginning, for instance, that different habits might cause misunderstandings or that a more experienced worker would not respect the ideas of new crew members. However, working in diverse teams will set impulses to rethink prejudices, become aware of one's own privileges, and work on communication skills due to prior misunderstandings.

In the long run, the workforce's talent, innovation, creativity, and contributions will eventually increase, and there will be a positive effect on diverse teams' ability to learn. By creating ways for open and trustful communication that allow time and

space for personal demands, and by creating awareness for diversity, differences can be seen and treated as enrichment for the whole organization.

Offer Mentor-Mentee Programs

Mentoring has a very positive impact on numerous things regarding the professional aspects (like skillset) of employees but also when it comes to team cohesion. It also implements a lifelong learning mindset because junior people can learn about experiences from senior people. Senior people on the other hand can learn new technologies and trends from junior people.

To kickstart such a program the organization can promote it upfront to attract senior people that are willing to try the mentoring program. For junior people, this program could be mandatory. Every junior employee gets a mentor as a partner who supports the junior for one year. After this one year, mentors and mentees could be mixed again. This is just another design option for such a program. If it is not needed and just adds complexity, it is also possible to assign one fixed mentor-mentee pair.

Topics and aspects that mentor and mentee are discussing during their meetings can be manifold. Mostly, it deals with the exchange on topics like personal development, professional growth, technologies, and company-related issues. This leads to numerous benefits for the company, for instance:

- Increase bonding of employees with each other and with the organization itself
- Speed up the acceptance of automation
- Transmit the company's culture to the junior
- Bring together the experience of seniors and the youngster's knowledge and tech-savviness
- Create diverse teams in age and gender

Take and Give Feedback

Feedback is important for every organization and every individual. Therefore, the organization is in charge of collecting feedback about the transformation process of the company as well as the organization itself regularly.

The engagement of people and the willingness to give feedback really depends on the seriousness that the organization is able to show. If people feel that their feedback is being heard and taken into consideration, they are more willing to participate.

Feedback can be collected via various channels such as paper cards or digital forms. Either way, the organization should make sure that people can explain their contexts and thoughts extensively.

Offer Transparent Insights

Transparency and authenticity are key during a transformative process - be it a radical shift towards sustainability or automation. Transformation means that yesterday's processes and best practices need to change. This might cause uncertainty among employees.

The organization should use a multi-channel approach to communicate to the employees through this time. The good old board for announcements can be used as well as newsletters or all-hands meetings on different locations/facilities.

Transparent communication of numbers, progress, and next steps are important for the management to get the buy-in from the employees. For employees, it is important to get guidance on what comes next.

Digital & Sustainable Leadership

Digital and sustainable leadership is regarded as an important tool for companies to work responsibly and manage successfully in the modern and digital world. In order to navigate the modern VUCA world (Volatility, Uncertainty, Complexity, and Ambiguity) and remain competitive, it is imperative to transform traditional ways of working into sustainable ways.

Digital Leadership: Solution-oriented work requires the ability to react flexibly to unfamiliar situations. Above all, this requires openness to new methods and technologies. The automated warehouse is accompanied by a new working environment that will also change significantly for employees. In connection with the implementation of robots, empathy for the special situation of employees is, therefore, a prerequisite for digital leadership.

Sustainable Leadership: This means the ability to place oneself in the context of the situation. If responsibility is consciously and actively assumed at the management level, then the company can have a credible influence on its environment and on society. Leadership is sustainable when the company is managed in a socially, economically, and ecologically responsible manner.

The main goal here is to shift from managing the personnel of a company to guiding and encouraging its most valuable assets: human resources. By that, employees can be integrated into ideation processes more easily, creative impulses can be set up regularly, and the organization is able to make decisions more responsibly.

Collaborating With The Works Council

Often consisting of employees of the company, the working council monitors compliance with labor laws. In order to really get a grip on the topic of automation and sustainability, you need to work closely together with the works Council.

A first step to get the buy-in from the works council is to get in touch and discuss upcoming changes. In the following, we will show why the collaboration between the leaders and the working council is of high importance.

Working with the works council is always negotiating about employees, development plans, and perspectives of the workers. In order to get them on board, long-term planning is needed and also alternatives have to be provided.

With the coming automation, the fear of losing jobs is always present. But there are some options on the table that should be considered before. The tendency to work four days a week (or even three) has been cycling around in society for years now and is enjoying increasing popularity.

Also, retraining of employees could be an option. This includes a new job position that is closely related to a robot operator or manager. But it could also include the relocation to a new department. And also, new jobs will emerge once robots are more present in the warehouse. For all of the mentioned examples, grants, funds, and scholarships exist that help companies with these initiatives.

If it is inevitable that you have to reduce the workforce, this should always be accompanied by a social plan considering the duration of affiliation with the company, age, and all these well-known factors. In addition to that, companies should also contact business partners in their network to offer employment opportunities.

In the end, everything depends on a good relationship between the management and the works council.

Offer Employee Training

Good employees are the resource that makes a company successful. But in an environment of constant change, employees need constant training. This is an investment every successful company needs to make if it wants to continue being successful.

An employee training framework makes sense. This framework should define which trainings create value, how often these trainings are performed, and what the budget of these trainings are (or per employee).

Workshops on different topics, personal development sessions, learning new skills like ICT (information and communication technology), language skills or even team-building events could be part of this framework.

But learning new skills is just one side of the coin. Transferring learnings into action and applying them into everyday life is the second side of it. This transfer of learning is encouraged by cultivating a culture and by providing positive reinforcement, rewarding those who practice what they learned. These rewards can be manifold, reaching from incentives like salary increases or a promotion.

If your employees are part of this internal development program and are able to transfer their learnings into their everyday work, this can bring a new vibe of appreciating change and development, personally and professionally.

Allow Space for Experiments

Especially for organizations that are facing change, experiments and test environments are crucial. Mostly, when companies recognize that they need some kind of change to compete in a changing environment, they tend to continue with the methods that brought yesterday's successes.

Instead, these organizations should focus on bringing new ideas to life through experiments and test beds. These experiments can look very different. But there are a few things that all experiments have in common.

These experiments should require a defined time frame, people responsible for it, and KPIs (metrics) that define the success or failure of the experiments. Also it is important to have regular review processes and steering committees. With an experiment also comes the potential to fail. To also embrace failures as well as successes a solid failure culture needs to be implemented in the organization. Failures lead to learnings, learnings lead to more success.

Tomorrow's Competitiveness

Competitiveness is an important factor when products and services hit the market. If an organization is competitive today does not mean that it will be competitive tomorrow.

To think about tomorrow's competitiveness today can bring up new ideas, concepts and ideas that bring a huge advantage to an organization. For this, new inspiration and new views of existing challenges are needed.

This is where external experts, thinkers, and inspirational talks come in. The organization needs to create formats, where external people meet people within the company. This format should take place on a regular basis. The idea behind it is also that people within the organization can visit it (also from various departments). Not just the management should be present, but also employees no matter which position they have.

Green Finance & Bonds

Green finance and green bonds are an instrument for organizations to finance sustainable, that offer a low-interest rate but they are purpose-bound mostly to specific projects.

The advantages of taking in green bonds are very obvious. Of course, the low-interest rate speaks for itself, but also the publicity or starting green projects should not be underestimated. For the brand of the organization, this could bring a huge booster. With that, also green investors (looking for sustainable investments) can get attracted, which also helps the organization to find money for their projects. This means that the circle of potential investors is growing.

The organization can use the proceeds from these green bonds to sustainably automate their facilities, setup transformation teams to educate employees on sustainability and automation topics as well as start programs to use renewable energies from their own supply or make the facility smart with sensory input so that it optimizes its energy consumption by itself. Also, green transport and green mobility are included in the idea of green bonds.

Another instrument for financing sustainable projects could be *green grants*. These grants are mostly coming from (public) institutions and need a proper concept.

Commit to Renewable Energy

Renewable energy is getting more and more common and also attractive for business owners. With green finance, an instrument is given to organizations to accelerate this topic even more.

With the development of renewable energy, technologies are more advanced now, it really becomes an option. There are basically two options on how you can commit to renewable energy.

The first and easiest option is to find partners for offtake agreements. For instance, Ørsted, a Danish company, has various takeoff agreements with companies that are already committed to green energy and take it seriously. The second option is to determine how you can use renewables on your property. The most obvious option is to use solar panels. But depending on your property, there are potentially some more options.

Green Supply Chain

Especially for companies in logistics and production, the topic of a green supply chain is very important. The options to contribute to a greener supply chain are very manifold, but they also depend on the scope of the organization's business.

Planning smarter routes and shortening distances is one of the potential options. Sometimes even the most advanced route planners use their experience, which is not always the smartest way to deliver products and plan routes.

Green packaging and commissioning could be another option. Green mostly means smart. And smart means that on one hand you do not go with traditional packaging. It is time to explore greener options. Also for the handling of goods in intralogistics, those solutions exist.

Work with partners who are also contributing to the green supply chain. In some cases, your company has business partners on different sides of the business, where you can decide with whom to work (or whom to contract). Make sure that you choose the ones that are aware of green supply chain topics.

Zero Waste Operations

Keeping an eye on your resources is at the heart of zero waste operations. This includes emissions like (air, soil, solid and hazardous waste), waste of resources like energy, material, and human resources. Also when it comes to administrative resources like paper and energy spent.

The first step towards zero waste operations is to analyze where and why resources are allocated within the organization. After that, every department should take action and create a plan, on how to reduce or better allocate those resources. In addition to just reducing resources, it possibly makes sense to conceive alternatives that are less waste-producing or where the end product (waste) can be used by other companies to form a product out of it.

This approach is called *Circular Economy*. Being successful in the coming circular economy means finding partners where their waste is your raw material and also where your waste is their raw material. This process is not easy at all, but it creates value for society and our planet.

3 - Workforce

This chapter deals with the workforce (the actual and the future employees) of the organization. With the workforce playing an active role in the change and transformation process, it is important to develop all employees and show them how they can widen their skill set to be part of it. This chapter highlights some of the key topics that employees of a changing organization face, and it shows opportunities to involve them.

Adapt Skill Set

In a changing working environment, a new skill set is needed. This does not mean that current skills are not needed any longer. It just means that other skills will become more important. A prominent example is management skill. Working in a more and more automated environment means that there will be intelligent systems and new tools that need to be maintained and managed well.

Besides that, the importance of technological skills will rise, too. Understanding new smart tools and being able to make them work for you properly requires an understanding of their technology and behavior.

Be Open to Learn

The openness to learn new things is really important, not just for the organization but also for the employees themselves. One key benefit of the lifelong learning approach is that cognitive activity and flexibility of the mind are trained which leads to success and the fulfilling feeling of progress when applying new knowledge at work or even in private life.

The key requirement to enable lifelong learning is an encouraging environment that is not overwhelming but offers a constant flow of challenges and options to employees. To achieve this, the organization can offer further education to the employees.

New technologies, process optimization, and restructuring of processes offer great opportunities to learn, adapt and improve skill sets as well as mindset.

Feedback Culture

A feedback culture is an important part of every organization. It enables both sides (employees and the organization itself) to grow. By installing a viable feedback culture, the company and the employees learn to listen and act on the feedback they get.

Giving and receiving feedback is a skill that needs to be trained. Some employees are more empathetic than others when giving feedback. Therefore, training helps to enable this kind of exchange between employees as well as between employees and the organization. Feedback culture is not something that just appears and then stays forever. It needs training and active facilitators to make it a success.

If organizations are not offering this kind of communication, employees should actively seek dialogue with their management and make it happen.

Participation in Mentoring Programs

Personal development as well as growing a professional skill set is very important. Therefore, organizations should offer mentor-mentee programs (mentoring). This can help you to learn how to be a good mentor (and learn how to teach) and also to learn from an experienced person if you are the mentee.

This mentoring relationship can be used to exchange ideas, concepts, or experiences in professional as well as private life. Some mentoring programs are also changing the mentors after a defined period of time, but this is not mandatory. It also makes sense to have the same mentor for some years to provide more stability to the mentee.

If the organization is not offering these kinds of programs, you should definitely go to your lead or the management and propose this idea. Play an active part in creating such a program!

Shift of Responsibility

The times when a job was just a job are over. Employees expect that they contribute to a higher goal of their organization. Therefore the organization needs to provide employees with these objectives and show them how their work pays into it.

With more and more intelligent tools coming into the warehouse, responsibility for these tools will shift in the direction of all employees. Intelligent tools need to be managed and controlled. This task requires management skills as well as a broader understanding of all the processes in the warehouse as well as the technology behind them.

This development already makes clear that new relevant jobs will arise. Some will be more specialized in managing those intelligent tools (a mobile robot for example), others require rather technically competent personnel and play an important role when it comes to maintaining those tools.

All of these new arising jobs will come with more responsibilities for workers. On the one hand, there is the responsibility to handle intelligent tools, but on the other hand, there is also the responsibility to always be up to date with the knowledge about the tools.

Demand for Transparent Communication

Employees from all departments need transparent insights into the transformation process that is happening within the organization. Therefore, communicating

transparently is key. It will bring confidence to the employees and will encourage them to actively participate in this process.

After communicating the transformation process to employees, they will become aware of the change that is happening. Different departments can play various roles in this change. For instance, the human resource department, as well as the marketing & communications team, can contribute by actively communicating on internal and external channels.

However, transparent communication is just an enabler for the transformation as it makes transformation visible and tangible. It functions as a 'process awareness' mechanism and delivers the call for action, when carried out well.

Make sure that the management of the organization provides a plausible path forward - a transformation strategy.

The TRANSFORM Principles

After discussing the three parts of the *transformation triangle*, society, organization, and workforce, we introduce the TRANSFORM principles. These principles can be seen as key drivers for the transformation process. They give orientation and unite all of the topics that we discussed in the *Sustainable Automation Journey*.

For example, when we discuss mentor-mentee programs, educational programs, and workshops as well as other initiatives, the idea results in one principle that is called 'Investing in your employees'. Following this pattern, we designed the TRANSFORM principles to make the *Sustainable Automation Journey* more tangible.

The ongoing shift to automation and sustainable operations brings changes. The TRANSFORM principles support you with well-structured missions to master your TRANSFORMaTion successfully.

Invest in your employees

TRANSFORM by investing in your employees. This principle summarizes all actions around different investments in your employees to make them ready for the transformation and the changes that will come.

Starting with: The creation of an organizational culture, where you are constantly seeking opportunities to invest in your employees, is the starting point of this principle. After that, just plan the first initiative and make it a success. More complex initiatives can follow if the foundation is working.

Measures & Initiatives: Regular workshops, educational training, and personal development programs (e.g. mentor-mentee programs) are the right initiatives here. These initiatives begin to be valuable if you make sure that the learned subjects are practiced afterward. Also, inviting external guests and speakers can inspire your employees. Mental health, for example, is a very important topic, and sessions on this topic can be very fruitful. Another initiative is team building events that are relevant for a harmonious organizational culture and comfortable work atmosphere.

Feedback on progress: Get feedback from employees on the initiatives and adjust the programs. Find out how many people attended the workshop, talk or program. Conduct a survey to find out what your employees would like to learn or do.

Listen to the People

TRANSFORM by listening to people. Automation sets free a lot of energy. By listening to the employees and collecting experiences from them, you will find even more cases to automate.

Starting with: A potential starting point is to integrate your employees into the ideation process about how and what to automate. They probably know best, since they are on the shop floor every day. Also, create a space for open communication by implementing an open error culture so that you get honest feedback.

Measures & Initiatives: Create insights on how the working culture is currently defined at your company. What are the different working styles, personalities, idiosyncrasies, and annoyances of your employees? It might help to add a person with cross-cultural management experience to this initiative. If you plan to automate in your facility, listen to the employees carefully. If you try an experiment with new technology (proof of concept) in your facility, always be visible and approachable to your team.

Feedback on progress: Collect feedback on a regular basis when trying out new technologies or implementing new processes. Those experiments are mostly done for a limited period of time, so it is important to get honest feedback fast and convert it into actions. Besides, get feedback on how the change is progressing and how your employees perceive it.

Appreciate Diversity

TRANSFORM by appreciating diversity. Processes of change come with both fear and potential. By understanding the value of diversity, you are able to benefit from different perspectives and lay the groundwork for safe and responsible growth.

Differences in gender, age, origin and background, education, disabilities, or other individual characteristics are a strength and can enrich your company.

Starting with: The first step is to inform yourself about the topic of diversity. Learn how your organization can benefit from diversity and which options exist to implement it.

Measures & Initiatives: Put someone in charge to monitor and own this topic. This person should function as the contact person for employees if they feel discriminated against or if they have questions about the topic. Additionally, hold regular workshops on the topic of diversity (e.g. the creation of diverse teams). You might hire an external expert who can help with establishing the new structure or team culture, too. Another initiative is to foster diversity in managerial positions. A closely related topic is the 'equal pay' discussion. Assess your processes and ensure that your organization is on track with this topic.

Feedback on progress: If you have a person responsible for diversity and you make clear that this person is in charge of feedback regarding the process, your employees have a single point of contact as well as a face that represents the topic. That is very important, since most of the topics concerning diversity are very personal. We also recommend that the person in charge conducts reports for internal use to make progress visible.

Identifying unhealthy tasks

TRANSFORM by identifying unhealthy tasks. Find repetitive tasks within your organization. They are unhealthy for physical and psychological health, meaning that people often get mental illnesses (e.g. depression, boreout) and are more prone to get back and knee problems in old age. Unsatisfied and depressed employees are

more likely to change their jobs. Therefore, it is important to identify them and find ways to automate them.

Starting with: Have a close look on a selected set of processes in your warehouse. Create a long list with the most interesting ones. After that, make short lists prioritized by how repetitive the processes are and how easy their replacement could be tested with a new technology, for instance, an Autonomous Mobile Robot (AMR) or an Automated Guided Vehicle (AGV). Mostly, the tasks that follow a monotone routine are predestined for this.

Measures & Initiatives: Talking to your employees about their tasks and identifying these tasks together with them (or the operations lead) makes a lot of sense.

Feedback on progress: It takes a long amount of time to get feedback within the scope of this TRANSFORM principle: During or after an experiment with an automation solution (e.g. mobile robot) you are provided with valuable information. Before the test, the feedback you receive is mostly personal opinions or speculations.

Working alongside Robots

TRANSFORM by working alongside robots. Robots are mostly known from the media. In movies, they often have weapons and work for the evil (e.g. 'i, Robot' with Will Smith). With educating on what robots really are, how they work - people will get more interested in shaping the change instead of blocking it. The motivation behind this principle is to reduce fears and encourage curiosity as well as acceptance.

Starting with: The starting point is to try around experimenting with a mobile robot. This can be done after you found the suitable task for automation (TRANSFORM

principle: Identifying unhealthy tasks). Involving your employees in the process, keeping them updated and considering their feedback is the most important step to make them feel comfortable (allowing space for experimentation).

Measures & Initiatives: Plan some experiments and on-site tests with robots. Also, plan budget and time resources from people involved. Setup a transformation team (or project team) with responsibilities. A popular initiative that we experienced in the field was that employees gave nicknames to the robot, which helped them talk about the robot itself and increase the acceptance of the new colleague. Give introduction about the new technology and reserve time for all employees to understand what the robot can and what it can not do.

Feedback on progress: With transparent communication, you will also get valuable feedback on how the experiment went. From this point, possible improvements as well as next steps can be identified.

Scale down responsibly

TRANSFORM by scaling down responsibly. Automation takes manual tasks from human workers and automates them. In human history, this happened a lot of times. This change is basically where our progress and prosperity comes from. The question is how responsible this process is implemented and how flexible new working models can be.

Starting with: The starting points for this principle are manifold. Therefore, it is important to not lose focus. Begin with implementing solid communication about the change that will happen. Talking about possibilities and fears is the base for mutual decision-making. Secondly, consider new working models or shift employees to different roles or departments if they are interested in. It is important to get the

acceptance from your employees for the change to come if you want to scale down in a responsible way.

Measures & Initiatives: Start with testing a four-day week (or even a three-day week), for example with equal pay, in order to keep employees in your organization. For the first experiments with employees that are willing to try it out, it makes sense to evaluate their experience. Also, consider shifting interested employees to different roles after processes are automated. Some employees might even be willing to be the manager of the new robots or other automation systems. They know their tasks very well, and if they get the chance to control the processes as well as the devices, there is a huge potential in creating new (volitional) responsibilities. Also, further education is an option to bring an existing employee into a new role. If it is not possible to keep employees, your organization might try to find a job for this employee in the existing business and partner network.

Feedback on progress: Feedback for different experiments is very important here. It is inevitable that, together with the works council, all experiments and changes are prepared and communicated carefully. Here, it is not about speed, it is all about finding the right initiative that fits your organization.

Communicate change transparently

TRANSFORM by communicating change transparently. As you already learned in this document, communication is key, especially when you are facing a big change and want to transform the organization. Transparency can lead to more efficient decision-making and will boost your employees' confidence.

Starting with: Find channels that work for your communication towards the employees and other stakeholders. Try to create a 'We-Feeling' and show everybody that they are important and can make a difference in the upcoming change.

Measures & Initiatives: Use a newsletter, information sheets, internal communication tools, or company events to communicate that your organization will take part in the challenges we are facing as society and that you want to meet all expectations regarding sustainability. Besides the communication with internal stakeholders, the external stakeholders also expect transparency from you. Create a sustainability (ESG) reporting regularly and update it yearly (or quarterly). Additionally, publish articles on social media or use other external communication tools. The Sustainable Development Goals (SDGs) are also a good instrument to motivate (internal and external) initiatives. You can report on this one, too.

Feedback on progress: Get internal feedback directly in feedback rounds or establish a mechanism, where you can be reached from employees with honest feedback. It is important that you find out if your communication resonates well with employees or if they feel left behind. For feedback on ESG reporting or other outside communication, you should consult experts to assess and improve it if necessary.

Decouple economic growth from environmental degradation

Transform by decoupling economic growth from environmental degradation. The goal is to develop our life and our economy within the framework of the resilience of the natural balance. There are more and more options of getting financial support for the implementation of appropriate measures.

Starting with: Evaluate the opportunity to get green bonds or other types of financing for your change. Assess your defined processes and find room for improvement. The options of being part of the upcoming industrial revolution using robots as well as contributing to sustainability are getting more and more attractive.

Measures & Initiatives: Funds, grants and bonds continue to be structured to support sustainability projects in organizations. A lot of opportunities emerge with these financial instruments supporting you in this change. Try to find possibilities to reduce waste, generate renewable energy and recycle or upcycle. To get a grip on this initiative, establish a project team that deals with these kinds of optimizations. As attractive as the financial instruments look, the focus lies on identifying the potential we mentioned and finding ways to improve it efficiently. The circular economy holds a lot of opportunities, too. Investigate which potential partners are of interest to you to establish a link to the circular economy. Someone's waste could be your raw material, and your waste could be someone else's raw material.

Feedback on progress: The feedback on how you are performing comes mostly from outside. For instance, institutions that give financial support to you, will respond to your request. But also, talking to business partners on the potential to optimize your facility can give you valuable feedback on how you are doing.

Take Action!

Now, it is time to take action. This chapter provides you with ideas regarding the goal setting process and the transformation team involved in the transformation. Specific action points for each department demonstrate their capabilities to contribute to the process.

Once everything is set up, the tracking of the progress becomes a crucial part of the transformation. By making successes visible and tracking them, you will keep up the motivation of your employees, even if some of the initiatives are not working as expected.

Change needs to become a habit where everyone gets the opportunity to contribute. In this chapter, we will explain why. Besides, we will tell you how to communicate your transformation process inside and outside of the company.

Create SMART Goals

To make goals more tangible, the creation of SMART objectives (a tool created by George T. Doran in 1981) is important. SMART objectives are:

- **S**pecific (simple, sensible, significant)
- **M**easurable (meaningful, motivating)
- **A**chievable (agreed, attainable)
- **R**elevant (reasonable, realistic, result-based)
- **T**ime bound (time-based, time limited, time/cost limited)

If your goals are SMART, it is easier for you to track the progress and evaluate if you are working towards your set objectives or not. Using measurable action items assigned to your goal helps to slice it into smaller tasks, too. Here is an example of a SMART objective: *Implement 20 robots in the three use-cases cleaning, box transport and pallet transport until 2025.*

Establish the Transformation Team

The transformation team is an interdisciplinary team where persons from different departments work together. They meet on a regular basis to discuss objectives and report progress on them.

Representatives from the following departments should be involved in the team:

- Top Level Management
- Human Resources
- Marketing & Communications
- Innovation Management
- Selection of heads and leads from your operations
- IT and leading technicians
- Selected employees as ambassadors

Having a selection of all departments working together helps to flatten hierarchies and to make communication across departments more effective. At the beginning of the process, this team needs to sit together and:

- Gather information about the transformation process
- Plan initiatives and assign tasks for each individual
- Find out which part of the transformation could work easily to identify starting points
- Paint a picture of the future for the organization in 10(+) years from now
- Find ways to communicate the change and make employees aware of it.

One key skill to succeed with this transformation is patience. Some employees and even people from the top management fear change. Therefore, it is recommended that the transformation team provides their workforce with workshops and an educational program. Transformation is a process that is not always welcomed and is mostly not working as smoothly as expected. People will only be willing to actively support and participate in the process if they know what to expect and if they are carefully guided by the transformation team.

If something went wrong during the process, the transformation team might use the regular meetings (weekly, bi-weekly) to hold post-mortem analysis. There, they can discuss why the issue arose and develop ideas for the future to prevent this kind of situation happening again.

The transformation team can be seen as the head of the whole process (a 'situation room'). If this team is not performing well, the whole transformation will probably fail. Be careful with selecting people. The meetings should always be precise and on-point to ensure the process is going well.

Action Points for Management

Management is a very crucial part of the *Sustainable Automation Journey*. Management has the power to decide in which direction the organization is heading. Therefore we collected a list of action points for managers.

- ☐ Implement digital & sustainable leadership (value-based management, responsible decision-making).
- ☐ Commit to Sustainable Development Goals (SDGs) with your organization.
- ☐ Start acting and reporting on environmental, social and governance (ESG) regulations.

- ☐ Communicate transparently about the transformation process.
- ☐ Imagine how your organization and your industry will be formed in 10(+) years from now.
- ☐ Find out which factors are important to your company for tomorrow's competitiveness.
- ☐ Find out if green bonds and other financing instruments are applicable for your organization.
- ☐ Allocate budget for mentor-mentee programs, educational programs, innovation, and researching trends in the industry.
- ☐ Allow space for experiments in your company.

Action Points for Human Resources

The role of the human resource department in the journey to reach sustainable automation can be defined as an enabler. This department needs to take care of the workforce. Below are some of the most important action points for human resources.

- ☐ Hire diverse people for your teams.
- ☐ Push for mentor-mentee programs in your organization and organize them.
- ☐ Offer employee training and further education.
- ☐ Create job offers for 'Robot Operators' and people with IT skills (can be found in our *Robot Operations Framework* at www.waku-robotics.com).
- ☐ Provide an inclusive work environment for your employees.
- ☐ Participate in ESG activities of your organization.
- ☐ Develop plans to scale down the workforce responsibly (try to find jobs for them within the business network of your organization).
- ☐ Enable the management as well as the workforce to take and give feedback regularly, and establish a framework for trusting communication.
- ☐ Work closely together with the works council to make it future ready.

- ☐ Guide the workforce through the transformation process by communicating openly.

Action Points for Marketing

Marketing and communications (external as well as internal) play the role of a megaphone during the transformation process. Therefore, this department needs solid narratives to ensure that all initiatives are communicated well. The most important action points for this department are summarized below.

- ☐ Create a strategy on how to communicate your ESG reporting internally and externally.
- ☐ Call for contribution to transformation relevant topics within your organization.
- ☐ Find your positioning to the trends and developments that are currently discussed within society.
- ☐ Help your human resource department when communicating new job descriptions, especially those who are related to the transformation.
- ☐ Help other internal departments to communicate change and transformation within the organization.

Action Points for Innovation Management

Innovation starts in people's minds in this department. In fact, the experimentation with new technologies and processes takes place here. Therefore, the innovation department is one of the cornerstones of the *Sustainable Automation Journey*. The action points for innovation management can be found below.

- ☐ Evaluate new technologies for your organization.
- ☐ Get help and advice from experts in the field.
- ☐ Acquire a budget to run experiments with new technologies.
- ☐ Run experiments that are measurable, and evaluate them properly.
- ☐ Develop ideas regarding zero waste operations, a green supply chain or circular economy.
- ☐ Provide the management with a plan for sustainable automation of your operations.
- ☐ Contribute to the ESG reporting of your company.

Action Points for Operations Lead

Operation leads are the managers on the shopfloor. As for the daily business, the operation leads are the ones applying the new technologies and giving first hand insights to innovation management. Action points for the operation leads can be found below.

- ☐ Find ways to communicate the coming change to your colleagues.
- ☐ Give and take feedback from the workforce.
- ☐ Learn about digital & sustainable leadership.
- ☐ Participate in mentor-mentee programs.
- ☐ Participate in educational workshops.
- ☐ Contribute to the ESG reporting of the organization.
- ☐ Plan and execute experiments containing new technologies.
- ☐ Find ways to apply zero waste operations.
- ☐ Communicate clearly what you expect from your colleagues on the shopfloor.

Action Points for the Leading Technicians and IT Personnel

IT is often overlooked in the beginning stages of the automation journey, but it is an important part of it. The people working in IT are responsible for data security, IT infrastructure, and all the parts of the company that are already digitalized. The action points for IT are listed below.

- ☐ Be ready for the first robot tests onsite
- ☐ Talk about the responsibilities of robot integration (as well as data security)
- ☐ Work with experts to ensure that all interfaces are working well
- ☐ Hire people that bring in robot expertise
- ☐ Participate in training sessions (from manufacturers and robot integrators)

Action Points for the Workforce

The roles of the workforce are to apply new technologies in operations and adapt to the change that is about to come. Regarding operational work with new automation technologies, the workforce on the shopfloor is the first ones generating insights. Potential action points for the shopfloor workforce are summarized below.

- ☐ Participate in further education and training sessions about new technologies, organized by the human resources department.
- ☐ Participate in mentor-mentee programs.
- ☐ Be open to learn about the new technologies.
- ☐ Give feedback to the operations leads and management to express both your ideas and your needs.
- ☐ Communicate clearly what you expect from your lead and the management.

- ☐ Stay up to date regarding information by the management about the transformation process.

Track your progress

To assess your current progress and estimate future initiatives, it is important to track what the organization (particularly the transformation team) is doing. Start with defining goals.

Earlier, we explained how to create SMART objectives (specific, measurable, achievable, relevant, and time-bound), a tool created by George T. Doran in 1981. By monitoring and assessing the KPIs (Key Performance Indicators) derived from the SMART objectives every time the transformation team or the departments themselves hold a meeting on the respective topics, you are able to track your progress easily.

If you find obstacles that keep you from achieving your goals, it is highly recommended that the team develops a solution to remove them. Once the transformation process has gained momentum within the team and the company, these kinds of show-stoppers can be very harmful to the whole project.

In regular meetings, pull up the *Sustainable Automation Journey* and present the TRANSFORM principles again and again. Are you on track with realizing them? Did you add some more principles for your organization? Regular meetings are the best spot to examine the defined action points for each department and evaluate what has been achieved and what is still open to accomplish.

Make change a habit

To patiently endure the transformation process, it is crucial to make change a habit. The name *Sustainable Automation Journey* already suggests that it is a journey, and they take time - for planning, exploring, making decisions on the road, and especially to realize new learnings and be able to move forward.

Regular meetings, newsletters, and postings on your external and internal channels are important. These pieces of communication show your external and internal stakeholders (the workforce is an internal stakeholder, too) that the transformation process still exists and that you take it very seriously.

Constant communication about the transformation and the *Sustainable Automation Journey* will stick in the heads of all people involved and make it a habit - step by step.

Talk about your Transformation

Nothing is more rewarding than reflecting on the hard and honest work of you and your employees, whether with potential clients, within the management, on the shop floor, or to the media. In fact, it is a means of rewarding you and your organization. However, telling the public that this kind of transformation is happening in your organization might be even more rewarding.

We recommend experimenting with potential success stories on new mobile robots or other technologies within your company. The announcement of such an experiment or a partnership with a technology leader in the field is relevant to the public as well as for your employees to create and keep interest in your company.

When it comes to internal communication, make sure to always add a *call to action* for your employees saying: 'If you have any questions, reach out to us' or even better 'If you want to take part in the process, reach out to us'.

Of course, execution of the transformation process is key, but communicating it in the right way is key, too.