Sustainability report 2021

KST-Motorenversuch GmbH & Co. KG,

Bad Dürkheim

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Preface

Current trends such as emission-free vehicles or CO_2-neutral development and production demonstrate the growing importance of sustainability in the automotive industry. This industry segment is going through a significant phase of change. Key elements of this transformation are electromobility, autonomous driving and connected vehicles. The growing demand for electric cars and innovative mobility concepts shows how important sustainability has become.

The transformation focuses on climate change and CO_2 emissions as well as the sustainability of the value chain. Climate change and its effects have long been part of a broad social debate. As a result of this, the legislature has significantly tightened the requirements for CO_2 emissions in recent years. Automotive manufacturers need to reduce CO_2 emissions both in vehicle production and for the vehicle fleet. In this context, the use of alternative drive trains such as fuel cells play an important role. As natural resources are becoming increasingly scarce, sustainable material chains are becoming increasingly important to the automotive industry. These are based on the principle of reusing and recycling resources. Automotive manufacturers count on biodegradable components and sustainable processes in research, development, and production. A sustainable supply chain and environmentally friendly transport are essential in order to fully live up to the responsibility of human rights and environmental protection.

We support the system change to e-mobility, combustion engines with hydrogen and fuel cell technology based on hydrogen to deliver innovative solutions to protect the environment and safeguarding the climate.

With our motto “Testing Powertrains to Move the Future”, we see ourselves as a partner in innovation alongside our national and international customers - mainly manufacturers and suppliers from the automotive industry - to shape the future. We continuously analyse the market developments to identify trends at an early stage and support our partners with innovations in the field of testing.

- What will drive the car of the future?
- How efficient and environmentally friendly are electric cars?
- What are the alternatives?
- How powerful are hydrogen engines?
- How long does a gearbox last?
- How quickly do the engines age?

These are the type of questions we work around the clock to find answers to.

Sustainable actions are one of the greatest challenges of our time.

Our strategy to sustainability:

At KST, sustainability is based on three structural pillars: economically successful development & testing, environmental protection and social responsibility. As a responsible and successful company, we are equally committed to each.

Code of Conduct

KST and all employees are committed to complying with the highest ethical standards and observing national and international laws.

These include:

- Compliance with the law
- Preventing bribery, corruption and kickback payments
- Fair competitive behavior
- Dealing with conflicts of interest
- Prevention of money laundering
- Compliance with the Code of Conduct

KST expects its business partners to equally adhere to these standards.

We want to strengthen the trust of our customers and business partners in our company by treating each other fairly. Compliance with these rules constitutes the basis for this.

Certrifications

In accordance with the related regulations, we are accredited with various certifications, which are regularly checked and audited. This includes a quality management system certified according to ISO 9001: 2015 by TÜV SÜD. KST is TISAX certified. This is an information protection standard defined by the automotive industry.
On April 29th, 2020, KST received the certification of the French rating "accredited R&D service provider", issued by the French Ministry of Education and Research. With the accreditation for the years 2019, 2020 and 2021, KST is recognized as an innovative research service provider for companies in France.
(accredited service providers are required to yearly prove their active work on innovative R&D projects in order to maintain this government certification).

Service portfolio

By creating an environmentally friendly identity for our company, we are strengthening our customers' trust in our performance and capabilities for innovation and wish to further encourage customer and supplier groups to an environmentally conscious behaviour.

KST operates a test field in Bad Dürkheim with the most modern test beds for passenger cars, commercial vehicles and large engines as well as for the development and testing of motor vehicle drive trains.

The range of services include test and development work for the following:

- Fully equipped workshop (strip and built facility)
- Laboratory for oil analysis
- Electric / hybrid drives
    - 48V – 1.200V
    - Durability testing (PTCE, HTHE, HTOE, …)
    - Functional development
    - Component testing
- Powertrain (BEV / Hybrid / Conventional)
    - 2EM configuration
    - 3EM configuration
    - 4-Wheel configuration
- Inverter tests
- Hydrogen drives (new from 2021)
    - Fuel Cell Systems
    - Hydrogen Engines
- Synthetic fuels / operating supplies
- Large engines - industry / railway / marine
- Internal combustion engines
- Transmission
- Exhaust systems
- Exhaust gas turbocharger
- Driving tests and fleet aging

Against the background of volatile markets and the political will to promote alternative drive concepts, KST is intensifying its research and development activities. As a result not only were test capacities for power electronics developed and made available, but also test capacities for hydrogen capability increased and the development of system efficiency test benches driven forward.

Fuel, electricity and hydrogen are key to operating the range of test beds successfully. Fuels for the internal combustion engines are stored in tanks. Operating supplies such as AdBlue, Glysantin etc. as well as oils are obtained through thoroughly monitored channels and stored in appropriate containers. Hazardous substances are stored in type-approved tanks which comply with the corresponding regulations and are subject to regular monitoring. We obtain electricity from a regional provider and from 2022 green electricity will also be used. Hydrogen is supplied daily by trailer deliveries. KST has a trailer station on the plant's premises since May 2021. Another trailer station is planned to go into operation from March 2022. A hydrogen storage tank farm is also being planned.

01 RESPONSIBILITY

We pursue a threefold approach, which includes ecological, economic and social criteria and determines our proactive behaviour based on our commitment as a responsible and successful company. We are convinced that environmental protection, high economic performance and social responsibility are inextricably linked. We see it as our duty to take an active part in protecting the environment. We determine the effects of our activities on the environment and assess them with the aim of monitoring them to reduce or avoid them in accordance with our technical and economic framework.

- **Economy:**
  - o Solidly financed privately owned company
  - o Long-term, healthy customer relationships
  - o Pristine conditions for development and reliability constitute a basis for economic success
  - o Creation and maintenance of jobs
  - o Highly competitive and growing innovative strength

- **Ecology:**
  - o Protection and efficient use of natural resources
  - o Controlled CO_2 emissions with the aim of reducing them
  - o Controlled fuel consumption
  - o Controlled energy consumption with the aim of purchasing 100% green electricity and natural gas to achieve CO_2 neutrality

- **Social responsibility:**
  - o Fairness and responsibility
  - o Education and training of employees
  - o Positioning talents in the most suited roles
  - o Optimization of working conditions (remuneration and working hours)
  - o Diversity and equal opportunities
  - o Comprehensive health and safety cover

02 ENVIRONEMENT

Environmental policy

KST makes an active contribution to the protection of our environment and defines the guidelines for action:

- Environmental protection is set at an equal level as the company's economic and social goals.

- In addition to complying with legal requirements, we maintain a process of continuous improvement reducing the impact of our activities on the environment, optimizing our management system and promoting employee motivation.

- We ensure that the resources required for development and testing are used economically.

- In order to avoid environmental harm and safety risks, an assessment of the direct and indirect environmental impact (risk assessment) is carried out before introducing new developments and test bench modifications.

- To review the waste management process, an annual waste report is prepared. We aim to avoid waste and recycle as much as possible.

- We maintain an open and objective dialogue with our customers, suppliers, the authorities and the public, thus contributing to a better mutual understanding.

- In close coordination with our suppliers, we pursue the goal of creating a transparent supply chain.

- Our employees are informed, trained and motivated to engage in environmental protection. They are required to implement these guidelines and to satisfy the legal and official requirements within the scope of their respective tasks.

Measures

Looking back over the past six years, we have implemented the following measures to improve sustainability and work in an environmentally conscious manner:

- In 2015, an energy management system was introduced to record every major source of power consumption at the test benches, refrigeration systems and cooling water reservoirs in order to measure and control the energy consumption
- Partial renovation of the company buildings to reduce energy consumption
- Conversion of the heating systems from night storage heaters and fuel combustion systems to natural gas central heating
- Conversion of all light sources to energy-efficient technology, mostly LEDs
- Conversion of the fuel farm's fire extinguishing system to use environmentally friendly extinguishing agents (as a measure for calamity control)
- Refurbishment of the fuel farm to guarantee optimal and permanent sealing to prevent leakage
- Retrofitting of ventilation/exhaust systems and refrigeration units of test beds with frequency converters to achieve significant energy savings
- Conversion of all refrigeration systems to environmentally friendly coolants
- Conversion of the forklift fleet from diesel to electric and retrofitting of the remaining diesel forklifts with diesel particulate filters. By 2021, 70% of forklifts will be electric forklifts
- 2 photovoltaic systems with approx. 90 kWp output
- Renewal of the exhaust silencer for noise reduction
- By purchasing a paper press and a pressure-barrel for residual waste, the frequency of removal of paper and residual waste has been greatly reduced
- Consolidation of process cooling recirculation to increase efficiency
- In 2020 we started modernizing and retrofitting 5 hydrogen-based test benches which were completed in Q1 2021. Five more test beds will be completed by Q3 2021. Hydrogen tests in conjunction with fuel cells and combustion engines will be possible as early as in the 2nd quarter of 2021
- For the operation of hydrogen systems, specific safety measures were implemented in order to continue to guarantee the present high safety standard
- Completion of a hydrogen trailer station in Q2 2021 -> conversion from H2 cylinder bundles to H2 trailer station for increased efficiency

Future measures:

- Gradual conversion of the entire electricity purchase system from a conventional electricity-mix to green electricity in 2021 -> green electricity to be acquired as of 2022
- Conversion of the previous purchase plan from conventional natural gas to natural gas with CO2 neutralization in 2021 -> Natural gas purchase with CO2 neutralization from 2022
- Energy-related optimization of systems; Replacement of old machines with more energy-efficient machines; Optimization of measurement- control- and regulation technology
- We will maintain our high standards of safety through training at all times. 24 training days for occupational safety are scheduled in 2021. 2021 will focus on training programs for electronics. 52 training days for qualified electricians according to VDE 1000-10 are already set. In addition, KST-specific training for specialized members of the personnel in electronics will take place (14 training days). Furthermore, a work safety day on the subject of "Electrical Safety" is planned.
- A campaign with the motto “healthy eating” is planned for 2022
- To further increase efficiency and save energy the centralization of compressed air production and retrofitting the circuit with frequency converters is planned for 2022
- The centralization of a modern heat recovery system and retrofitting frequency converters in the circuit is planned for 2022 to further increase efficiency and save energy
- Planned hydrogen storage tank solution in 2022 (more efficient use of the H2 resource)
- Planned hydrogen pipeline in 2023 from an electrolysis plant for green hydrogen (further increase in the efficiency of H2)
- We are reducing the company’s CO_2 footprint with 50% electric mobility vehicles by 2025. In 2020, 20% of our fleet already consisted of e-models.

Assessment of the environmental impact

Measured environmental impact of our activities:

- Controlled emissions
- Controlled fuel consumption
- Controlled power consumption
- Pre-sorted waste
- Controlled discharge of odour and noise
- Use of soil, energy, water and other resources

Where necessary, the environmental impact is monitored and documented using measurement technology.

An alarm and hazard prevention plan has been set up in case of operational irregularities, which defines the necessary immediate actions.

Emissions

The gaseous emissions into the ambient air resulting from our activities arise mainly in the areas of combustion engines (testing activity), exhaust systems, RDE (Real Driving Emissions), heating and exhaust gases from company vehicles.

The filters used in the development and testing systems keep emissions within the statutory and officially imposed limits.

By focusing more on alternative drive testing concepts, fuel consumption has been reduced by 3.1 million liters over the past 10 years, which has led to a 77% reduction in CO_2 emissions in our plant.

Energy consumption

By applying future environmental plans, we expect to reduce the controlled consumption of electricity and natural gas and doing so by using green electricity and acquiring natural gas with CO2 neutralization.

The main areas for use of electricity are the test beds for e-mobility, the supply of IT systems and lighting. The electricity consumption was reduced by 10% compared to the previous year. Natural gas is used for the heating system.

Handling of hazardous substances

The use of hazardous substances is necessary for carrying out test and development work. Handling and storage are performed strictly according to the legal regulations. Trained staff operate and monitor all hazardous substances. The handling of hazardous substances is regulated in binding operating instructions.

Waste

Almost all waste generated in the plant can be recycled. We have up to 30 different types of waste, which are collected in accordance with our waste collection and disposal program and dispatched to approved central collection points. The removal, recycling and disposal of all waste is carried out exclusively by certified waste handling companies. Due to the implementation of tests on alternative drive concepts, the consumption of hazardous substances has been reduced by 63% in recent years. The increase in the proportion of recycled waste is the result of our waste strategy, which aims to achieve a higher recycling rate. Further avoiding and reducing waste remains our primary goal.

03 PEOPLE

Fairness and responsibility

For KST, social responsibility not only stands for strengthening compliance and minimizing the environmental impact of one's own activities, but also offering employees good and fair working conditions and, as a development service provider and test facility operator, actively creating social added value for all of our customers. We are pursuing a similar approach in the area of social sustainability. In this field we aim to behave responsibly and fairly towards all stakeholders. From a company internal perspective the following are characteristics of a good employer such as employee participation, job security, development opportunities, equal opportunities and a reasonable level of strategic participation. From a company external perspective, we seek a healthy dialogue with the public and encourage our employees to take responsibility within the community. Both the HR department and the works council have been involved in strengthening the company's contribution to its social environment and its perception as a responsible company and social employer for decades.

KST is making a significant contribution to the transformation of the automotive industry in the field of climate-friendly e-mobility, hydrogen combustion engines and fuel cell technology based on hydrogen. We will only be successful if we take our employees with us on this journey, providing qualified training and preparing them for change.

An essential part of our company's success relies on the skills and commitment of our employees as well as our appeal as an employer.

We are required to carefully analyse the employment effects of newly developing business areas. We are aware that e-mobility will reduce the complexity of development and testing. On the other hand, growing digitization creates a need for qualifications in IT and electronics, which are linked to automotive engineering specialists.

A cooperation agreement has been in place with the University of Kaiserslautern for the creation of an e-mobility centre since 2018. This centre is housed at KST's own Willy Wolf Academy and we are working with the Institute for Energy Efficient Systems to participate in shaping the rapid developments in e-mobility. The cooperation applies to pure battery drives as well as hydrogen-based drives.

Employer attractiveness

It is our goal to be an attractive and reliable employer in the long term. Above all this means for us to keep our employer's promises and to include this as a tangible element in everyday work life. A high level of credibility is a prerequisite for being perceived as a top employer and thus attracting and retaining the best employees over the long term.

It is very important to us that our employees are actively involved in process developments and that opinions, assessments and criticism are heard.

A fair and transparent salary package enabling a balanced life is the basic requirement for satisfied employees. The remuneration and fringe benefits for our employees are above the legal guidelines and guaranteed minimum in Germany. When determining the individual remuneration, we do not differentiate according to gender or other classifications. Our employees are selected, hired and promoted solely on the basis of their qualifications and skills. The remuneration is strictly based on the activity performed and the individual working capacity.

Our employees benefit from further work related services. These include travel allowances and the “JobRad”. With a company pension scheme, KST makes an important contribution to securing income when retiring.

We are working on improving the work-life balance of our employees through models of flexible working hours. In doing so, we want to take into account the special needs of young parents, single parents or employees who are committed to caring for the elderly, for example. Designing the relevant and related regulations is determined by a set legal framework. Legally regulated parental leave shows the desire of many employees to combine work and family life. Our company regulations also consider the needs of many employees requiring flexible working hours. A company scheme for remote-working is in place at KST since January 2021.

The works council with 7 elected members represents the collective interests of our employees towards KST and defines information and co-decision making rights.

This involvement of employees in the company’s management process has proven to be very successful over the past decades. It ensures that change processes are tackled together and supported by the entire workforce. Employees also take responsibility for improving processes with their creativity, knowledge and initiative. This allows to contribute to achieving sustainability goals.

Diversity and Equal Opportunities

KST stands for respect, tolerance and equality.

Equal opportunities and equal treatment are important cornerstones for fair, open and unbiased contacts. KST encourages respectful and cooperative togetherness, diversity and tolerance. Thanks to these essential parameters it is possible for us to achieve the highest level of competitiveness, innovation, creativity and efficiency.

We do not tolerate discrimination based on ethnic or national affiliation, gender, age, skin colour, religion, belief, disability or social origin. We support diversity, actively advocate inclusion and create an environment which allows each individual to evolve to their highest capacity in the interest of the company.

Our employees are selected, hired and promoted on the basis of their qualifications and skills.

All employees work creatively on innovative solutions putting their different experiences and perspectives to best use. In order to achieve this, we require an open, positive and cooperative working atmosphere in which each individual can contribute and work jointly with enthusiasm. Thanks to this approach we are able to attract highly qualified people to our company and retain them in the long term.

Health and safety at work

We strive to not only strengthen the professional skills of our employees, but also their health. This is the prerequisite for achieving professional performance and the ability to deal with physical work in the engine test cells. We associate sustainability in health with our employees being able to retire healthily.

In addition to the high expectations placed on our employees, we as employers also need to react flexibly to changes in lifestyles and the needs of an aging society. Health management at KST therefore includes aspects of work organization, workplace ergonomics, prevention, integration and rehabilitation. Emergency medical care is guaranteed. We also receive medical care from a responsible physician.

In addition to meeting the legal requirements, KST builds strongly on methods for prevention. All employees are offered regular health examinations. These help to maintain and improve the health, fitness and performance of employees. This is a free and comprehensive health check-up solution available to all employees.

In 2018, 25 employees from KST took part in the BASF FIRMENCUP for the first time. In 2019, 20 employees were enthusiastic about this sporting event. Due to the COVID-19 pandemic, the BASF FIRMENCUP 2020 was cancelled.

In 2019, the first “health week” took place with focus on prevention of infection and prevention for muscles and bones. This initiative was applauded by the employees and will continue to take place at regular intervals in the future. Due to the Corona situation, which has continued since the beginning of 2020, the “health week” has been suspended for 2020 and 2021.

Instead, an additional KST health program was introduced in September 2020. All employees receive a monthly sealed-vitamin-set consisting of various vitamins in order to strengthen the immune system.

Due to the development of the pandemic and based on official recommendations, the management decided to offer SARS-CoV-2 rapid antigen tests - also known as self-tests. Since mid-April 2021, all employees have had the opportunity to carry out a voluntary self-test twice a week. Employees have been tested using a rapid test in suspected cases since mid-January 2021.

The steady development of work safety is just as important as medical prevention and first aid. For us, sustainability in the area of work safety implies that employees do not suffer any accidents during their time at work. All employees receive an annual safety briefing, which they are required to attend. This also applies to employees of external companies. Employees who come into contact with hazardous substances receive additional safety training on hazardous substances.

The fire protection systems at KST offer the highest level of safety. The operating functions of the fire alarm systems are checked and serviced annually. KST conducts regular fire drills, which are backed at least once a year by the city's fire brigade. Due to the Corona situation since the beginning of 2020, the fire brigade did not participate in 2020 and 2021's fire drill.

All employees can contact their respective managers and/or the work council at any time to report dangers or identified risks.

KST continues to encourage independent responsible behaviour and the design of the work environment in order to maintain a healthy and well-suited work environment to favour high employee performance.

About this report

With this sustainability report, KST informs its stakeholders about its sustainability strategy and the progress made in anchoring sustainability in the company. The order in which this report is written is based on KST's long-term sustainability goals and does not represent an order of priority of these topics. The report reflects the economic, ecological and social effects from 2018 to 2020. For more comprehensive information, some criteria have been supplemented with information from previous years. In order to allow for smoother reading, we opted to refrained from gender-related double entries. Corresponding terms apply to all genders in terms of gender treatment.

The reporting period is the financial year 2020. The key date for all data and facts is December 31st 2020. This sustainability report contains statements with an outlook to the future based on KST's current assumptions and forecasts. A number of known and unknown risk factors, uncertainties and other influences could lead to differences between the actual events, the development or the performance of the company and the estimates described. KST is under no obligation to update statements which are future oriented nor to adjust them to future events or developments.

This being the first report of its kind, there is no previous report for comparison. Based on this report, a revised report is to be drawn up every two years. An external review of the content has not been carried out but may be performed in the event of later editions.