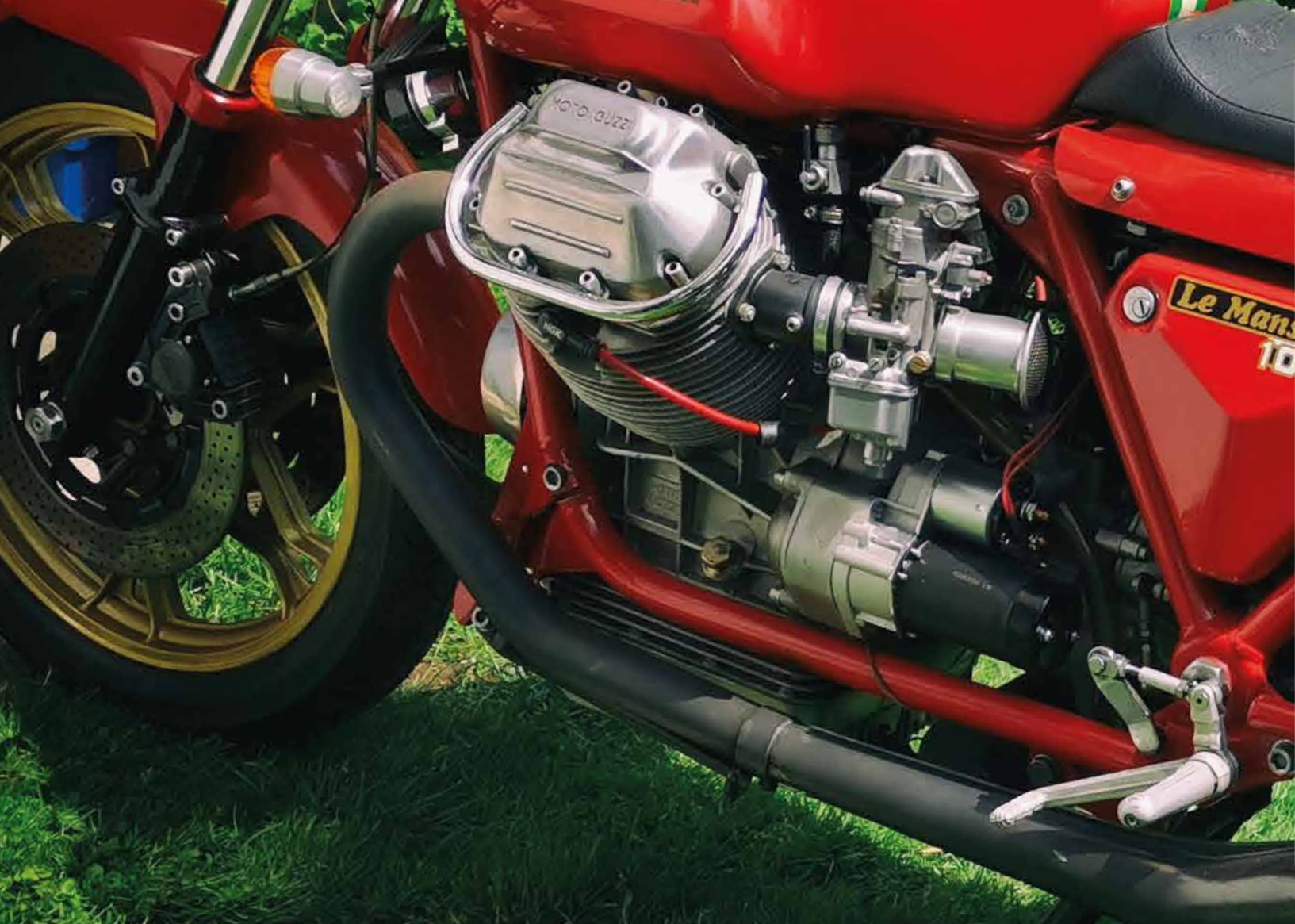


PRESERVE
what you **NEED**

CHERISH what you
LOVE





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passion@x-log

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passion@x-log

” **Passion** is our driving force.

We live for technology, whether we are dealing with data fusion for our sensors, the efficient transmission of sensor data to the cloud, or their analysis using artificial intelligence. Time flies by in this pursuit.

This passion, combined with the curiosity inherent in every scientist and engineer, enables us to employ the latest technologies and methods to meet our daily challenges in product development.

Enthusiasm is our goal.

Technology can and should inspire and bring joy. Joy in the development and production. And joy in everyday use, sports, and leisure. We aim to see the spark in the eyes - in our technicians and engineers when they work on our products, tackling complex issues using state-of-the-art methods and technologies.

In our diligent hands in manufacturing and assembly as they transform numerous individual components into finished products. And most importantly, in our customers, as they hold the results of our work in their hands and experience "Technology Made in Germany."

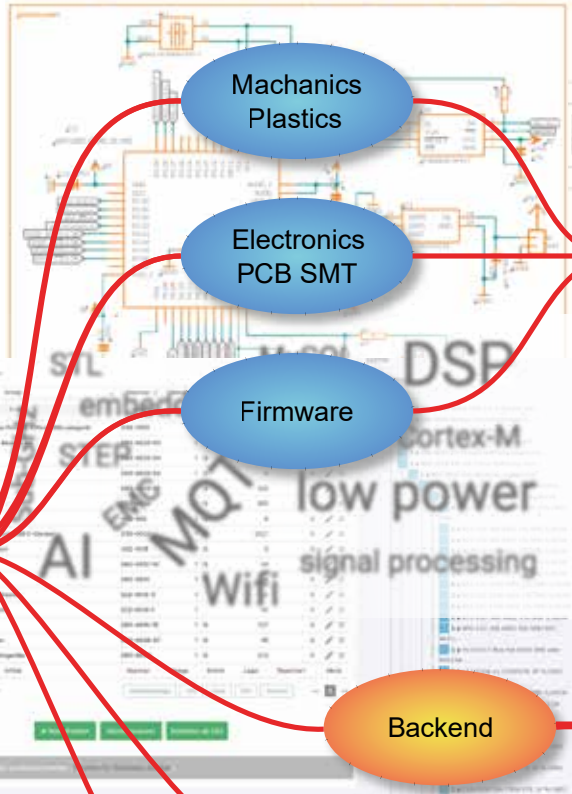
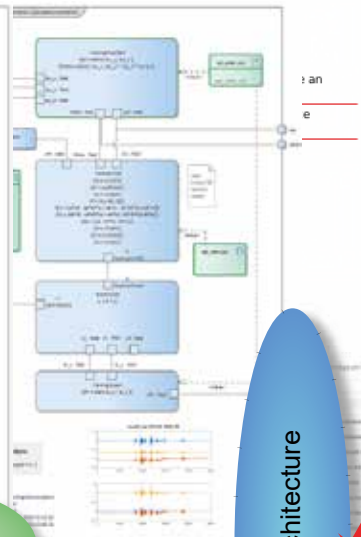
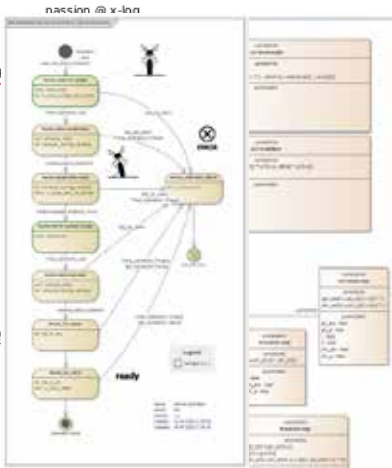
Dr. Rolf Matzner | CEO x-log Elektronik GmbH



Workbook

Vorwort I

technology



Mechanics
Plastics

Electronics
PCB SMT

Firmware

Backend

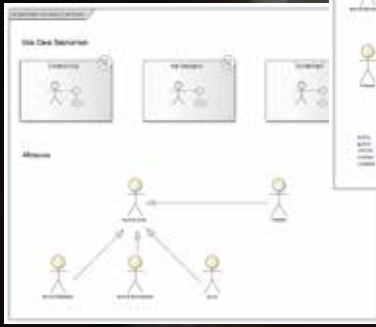
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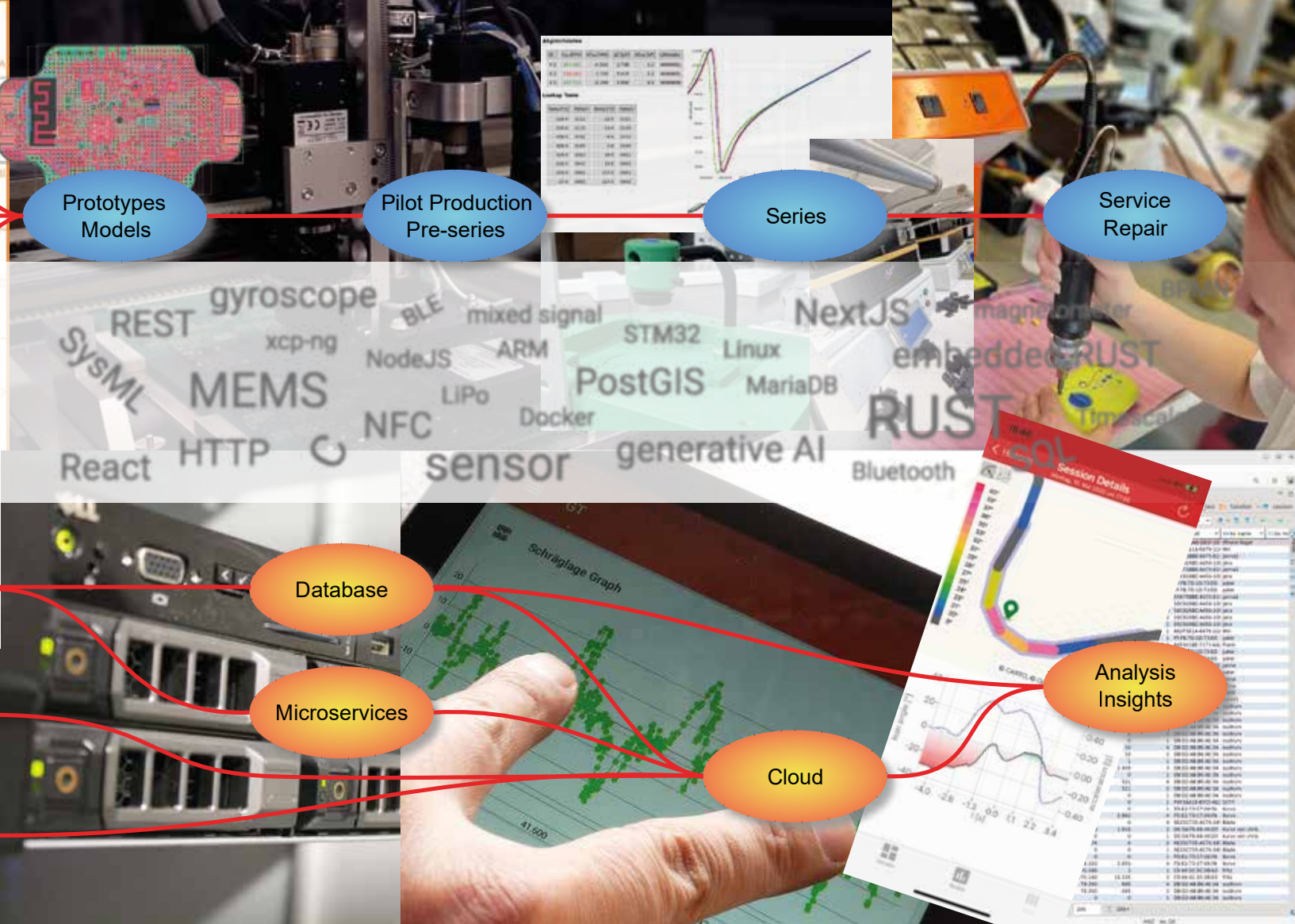
App
iOS, Android

System architecture

Idea

Feasibility





Prototypes
Models

Pilot Production
Pre-series

Series

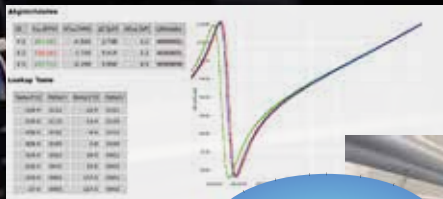
Service
Repair

Database

Microservices

Cloud

Analysis
Insights





x-log & Motorcycles

Technology excites us in all aspects of life, whether it's in our professional or personal spheres. That's why many of our product ideas often stem from everyday questions that arise throughout our lives.

A vivid example of this is motorcycle riding. We are motorcycle enthusiasts ourselves. It embodies freedom and speed, stimulates the mind, and significantly influences our world of ideas.

The challenges and joys of motorcycling naturally find reflection in the solutions we pursue in our technical work. The connection between man and machine inspires us when developing products that are not only functional but also make the hearts of tech enthusiasts beat faster.



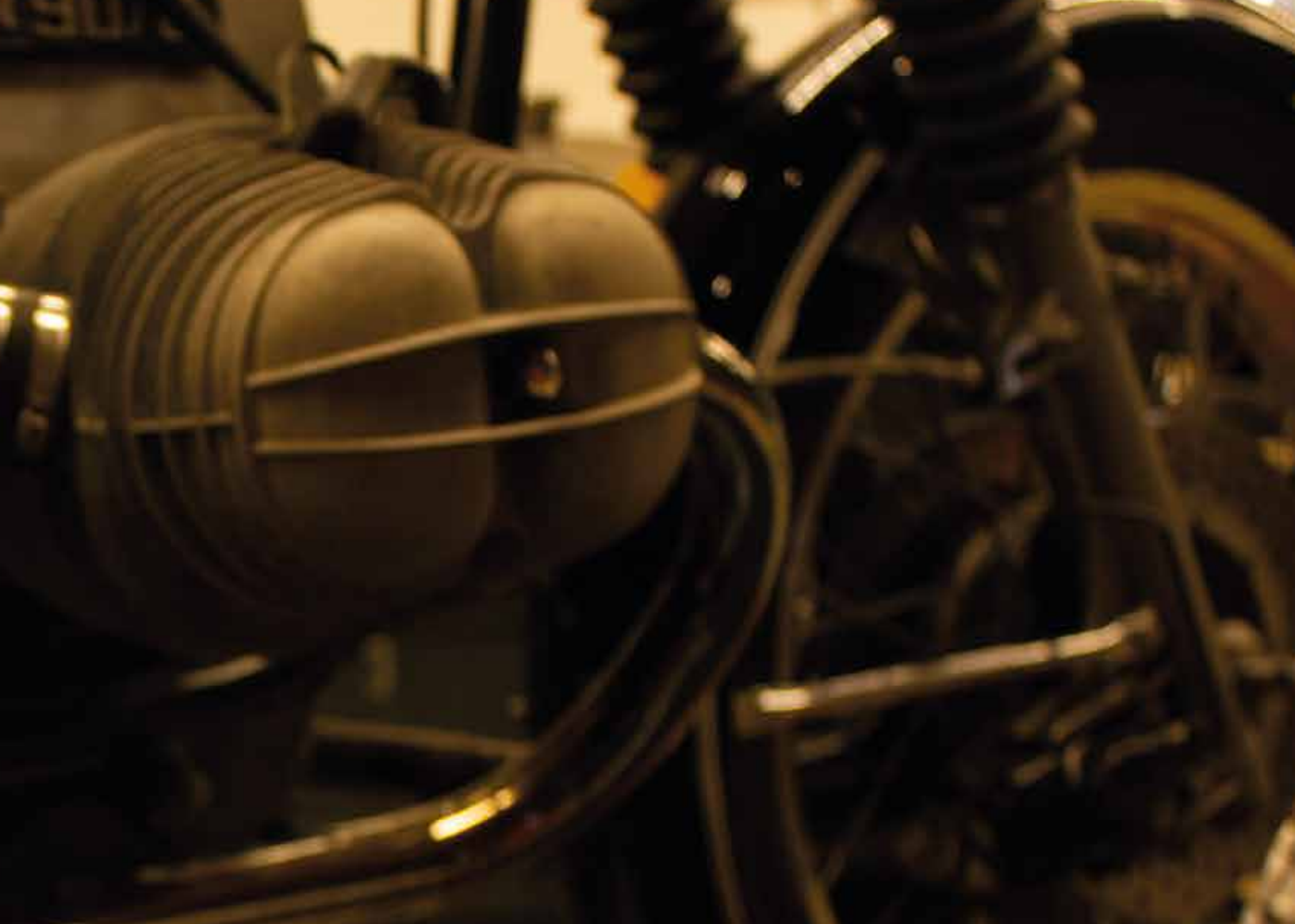
Peter „Zuckl“ Eck (1962 - 2016)
and his BMW K100

Rough running and excessive fuel consumption!

The fuel consumption of my 1984 K100RS was usually between 5.5-6.5 liters per 100 kilometers, depending on usage (with the higher handlebars of the K75 and a taller windscreen). When my motorcycle's fuel consumption reached 8.5 liters, I knew there was a problem.

With synX, I started troubleshooting and first checked the fuel injection system. It turned out that the fuel injectors were worn and no longer atomized properly. I replaced them and subsequently synchronized the fuel injection system. Lo and behold, the fuel consumption decreased, the engine pulled better, and it became significantly smoother.







on
cyl

off

pde

THIS IS

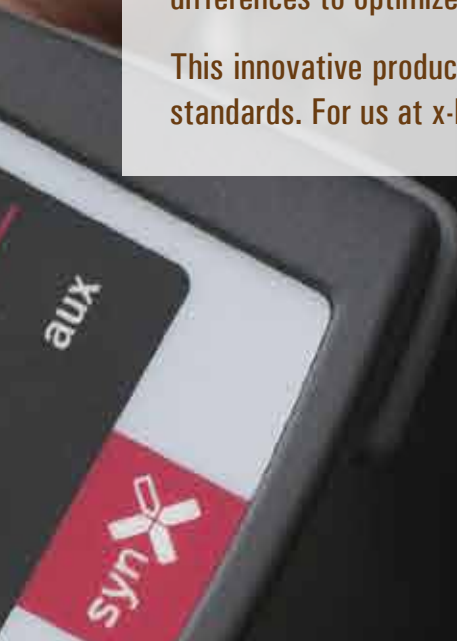


synX, the fully electronic synchronizer tester for carburetors and injection systems, was developed by Peter Eck in 2012. He is a passionate motorcycle rider, and since then, it has established itself successfully on an international scale.

Using state-of-the-art sensor technology, synX enables precise measurement of even the smallest pressure differences to optimize engine performance – all at an extremely attractive price.

This innovative product revolutionized the world of motor performance optimization, setting new industry standards. For us at x-log, this was the beginning of our passion for motorsports.

synX – MADE IN GERMANY





1.0 s 940

695 690

on

off

WHY SYNCHRONIZE?

Synchronization is crucial for ensuring that all cylinders of a motorcycle's engine work evenly.

Here are some reasons why synchronization is important:

- Performance Enhancement
- Smooth Operation
- Fuel Efficiency
- Longevity
- Environmental Friendliness

Lower vibrations reduce material stress and wear. Careful synchronization optimizes engine performance and achieves a harmonious, smooth transition from idling to partial load.



Performance Enhancement:

Proper synchronization ensures uniform combustion in all cylinders, leading to improved engine performance. An unsynchronized engine may lose power, run unevenly, and operate inefficiently.

Smooth Operation:

A synchronized engine runs smoother and more evenly. This contributes to a more comfortable riding experience and reduces vibrations that can wear down both the rider and the engine.

Fuel Efficiency:

A correctly synchronized engine burns fuel more efficiently, resulting in better fuel efficiency. This can help reduce fuel consumption and lower operating costs.

Longevity:

An unsynchronized engine can impose unequal stress on the cylinders and other engine components, potentially leading to premature wear and tear. Synchronization helps extend the engine's lifespan.

Environmental Friendliness:

An efficient engine burns fuel cleaner and produces fewer harmful emissions, reducing environmental impact.





FEATURES

For optimal diagnostics, synX offers various measurement types and displays. The display can be set for the simultaneous measurement of two, three, or four intake tracts.

ABSOLUTE PRESSURE

For all active channels, the intake vacuum is displayed with bars and numbers.

The bar display allows for a quick assessment of whether a synchronization issue is present. With the adjustable electronic display damping, you can reduce a turbulent display to the extent that numerical values and bars are easily readable, while the display still responds promptly to changes. In the lower display area, the current engine speed is continually shown. This allows for easy monitoring of the target speed during the measurement.





DIFFERENTIAL PRESSURE DISPLAY

For precise adjustment, the pressure differences between individual intake channels are crucial.

The differential pressure display shows, for each active measurement channel, the positive or negative deviation from the mean value of all active channels. This makes it particularly intuitive to work with. Bars moving upwards indicate: open the throttle, while bars moving downwards indicate: close the throttle. The longer the bar, the more adjustment is needed. The adjustable sensitivity allows for fine-tuning, similar to zooming in with a camera lens, to approach the optimal synchronization.



MIN-MAX DISPLAY (DYNAMIC)

It's not just the maximum intake vacuum but also the range between the maximum and minimum values during all four strokes that should be roughly the same for all intake tracts.

To achieve this, synX can record the complete pressure profile and display the range between the maximum and minimum values. Larger deviations between the cylinders indicate issues such as leakage.



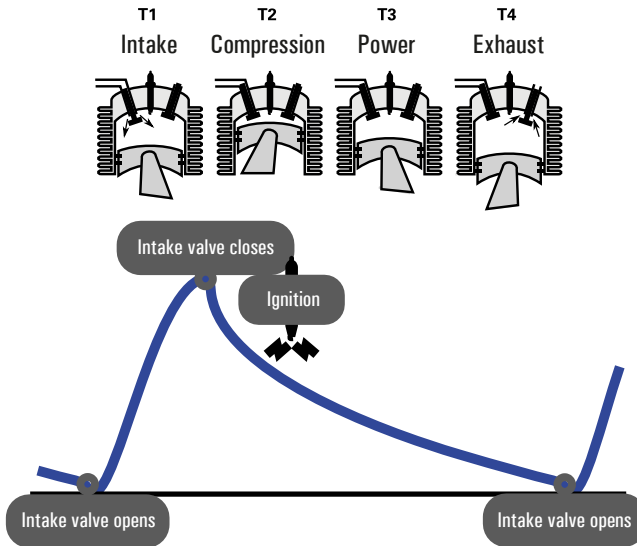
PRESSURE PROFILE

For each active channel, the temporal course of intake vacuum over all four strokes is displayed in a time-pressure diagram.

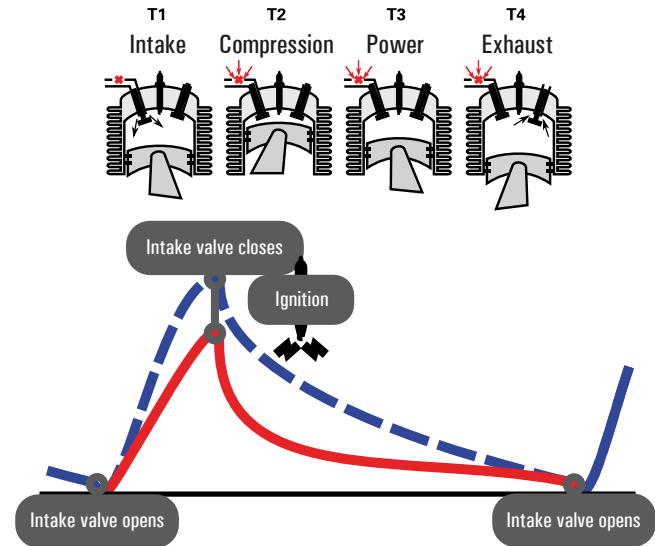
Each measurement channel can be individually displayed for a detailed analysis. The pressure profile display reveals leaks and valve issues that could result in significant engine damage and accidents.

Interpretation of the compressed air display during synchronization with synX

Ideal intake cycle pressure curve across all four strokes

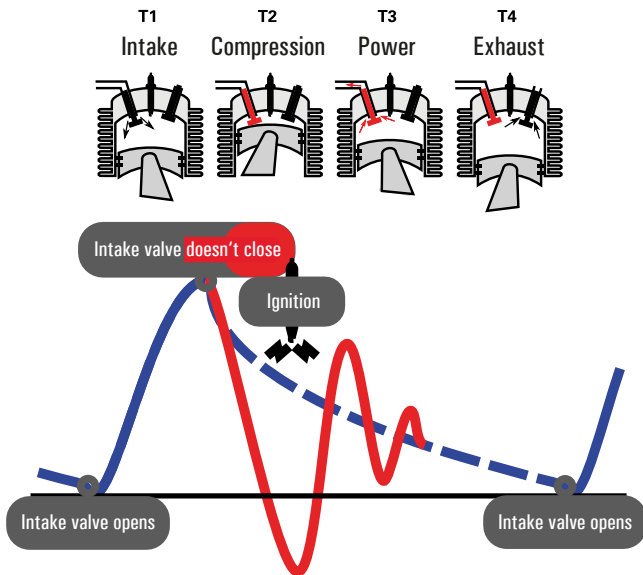


Air intake tract leak / Foreign air (in filter systems)



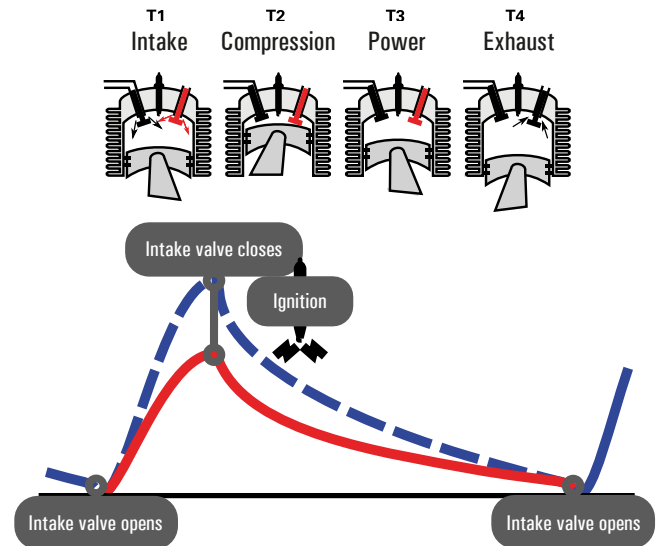
In case of a leak between the engine and the carburetor the measured vacuum decreases more rapidly.

Intake valve doesn't close / leaky intake valve



During the explosion in the cylinder exhaust gas is forced into the intake tract through the open intake valve. This causes the measured pressure to rise above normal.

Intake valve doesn't close completely



If the exhaust valve doesn't close completely, exhaust gas is drawn in. This results in a reduced measured vacuum.

*Cherish
what you love*



FOR WHOM IS **syn**

synX is for those who cherish their older engines and motorcycles and want to keep them in the best possible condition. This innovative synchronizer tester allows motorcycle lovers and enthusiasts to maximize the full power and performance of their beloved machines.

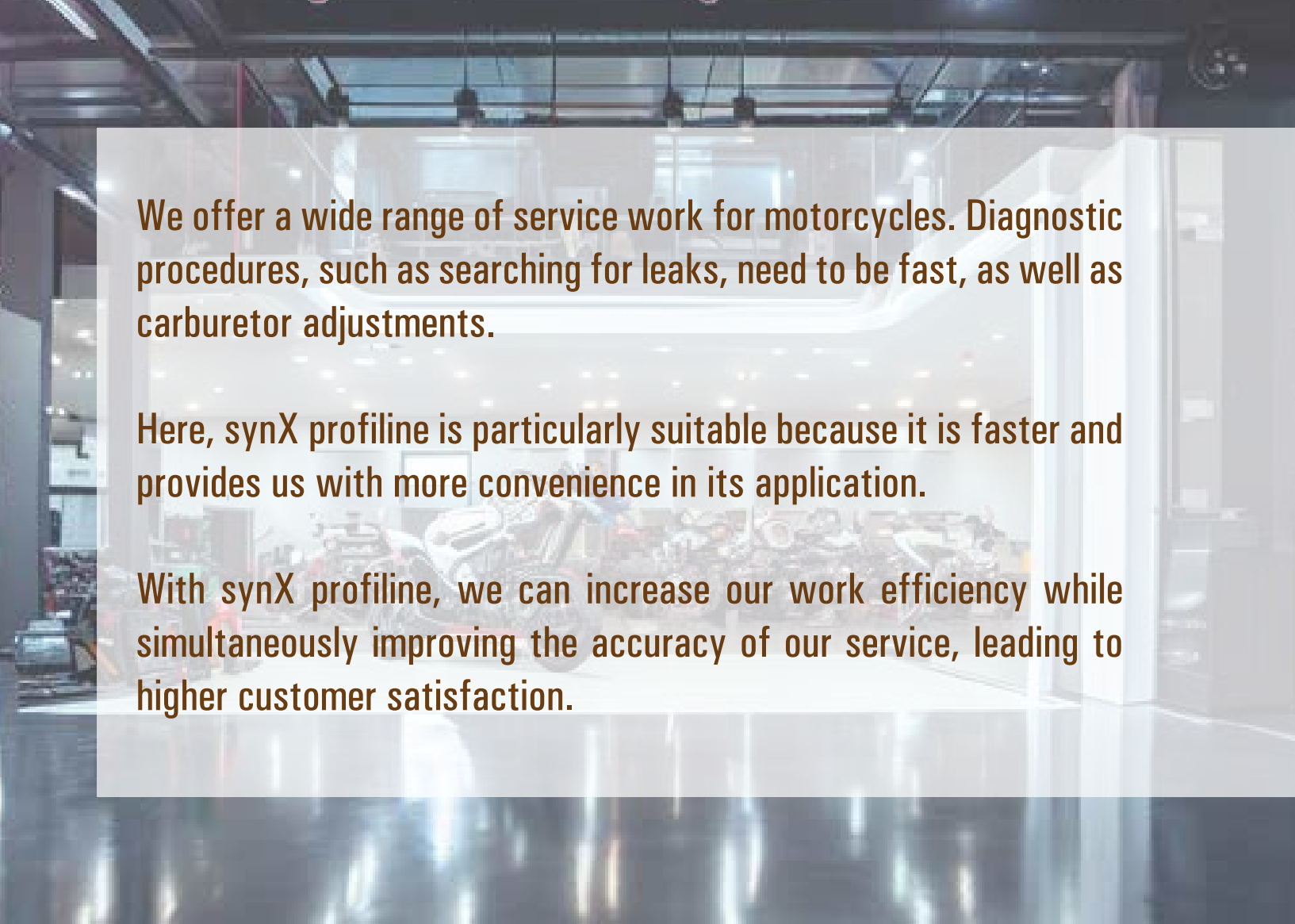
At x-log, we believe in taking care of what you love and preserving it to the fullest. Cherish what you love.

Cherish what you love!

SERVICE-CENTERS



Stefan | workshop supervisor

A photograph of a motorcycle repair shop. In the background, several motorcycles are parked on stands. The shop has a clean, modern appearance with white walls and a polished floor. The lighting is bright, and the overall atmosphere is professional.

We offer a wide range of service work for motorcycles. Diagnostic procedures, such as searching for leaks, need to be fast, as well as carburetor adjustments.

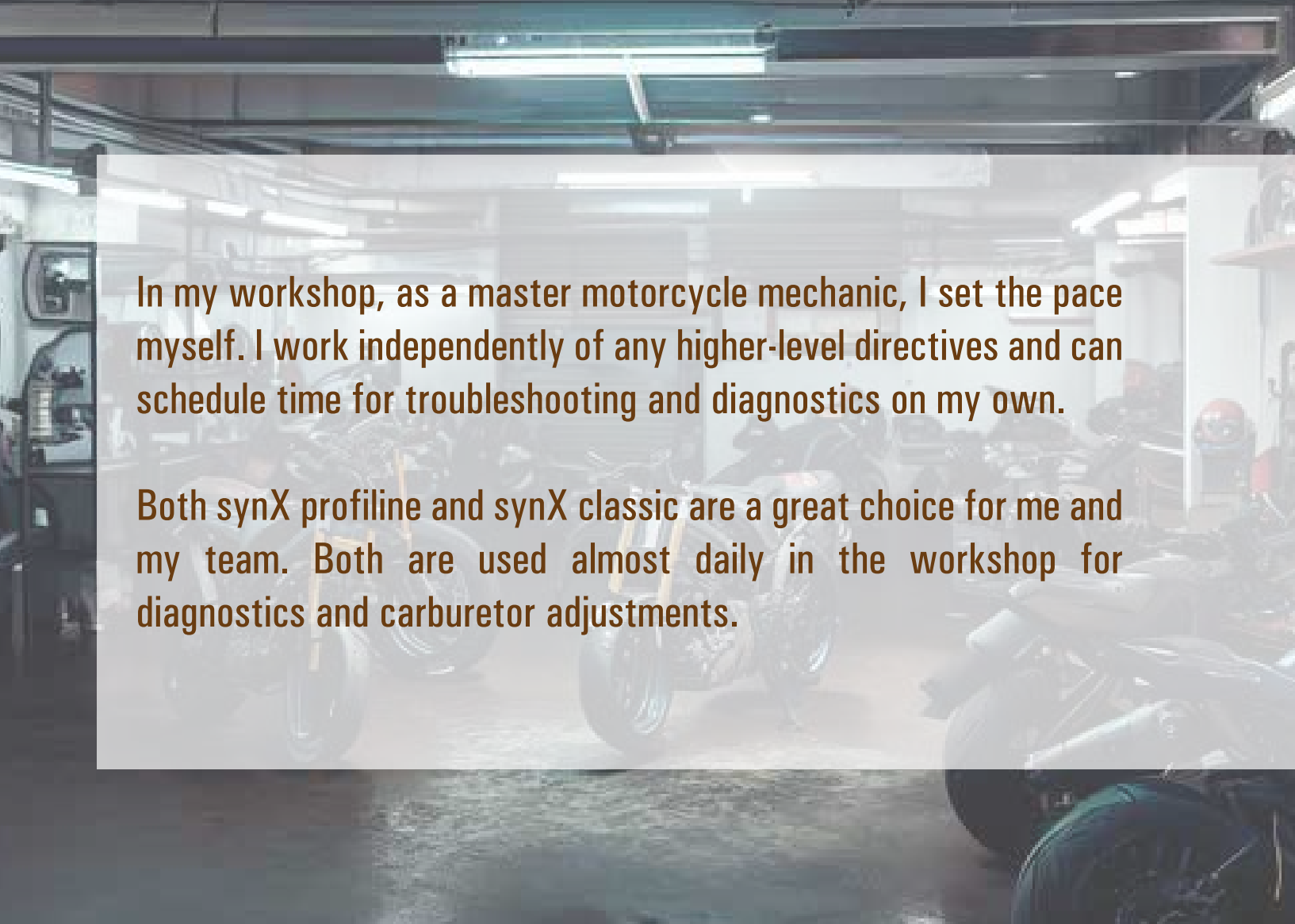
Here, synX profiline is particularly suitable because it is faster and provides us with more convenience in its application.

With synX profiline, we can increase our work efficiency while simultaneously improving the accuracy of our service, leading to higher customer satisfaction.

SMALLER WORKSHOPS



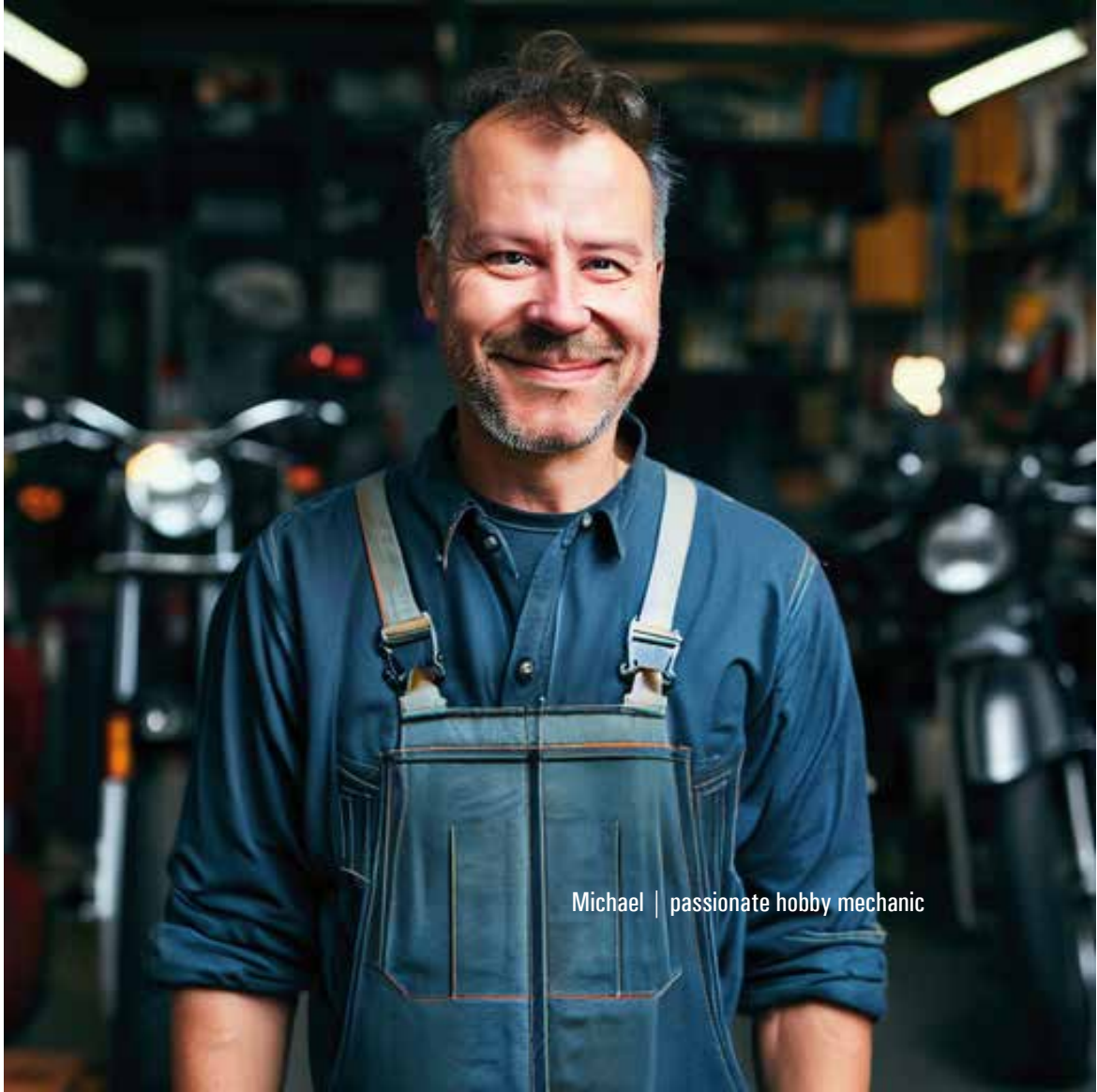
Paul | master motorcycle mechanic

A workshop filled with motorcycles, with a semi-transparent text box overlaid on the center. The workshop is well-lit with overhead fluorescent lights. Several motorcycles are parked in rows, and some are being worked on. The text box is white with a thin black border and contains two paragraphs of text in a brown, serif font.

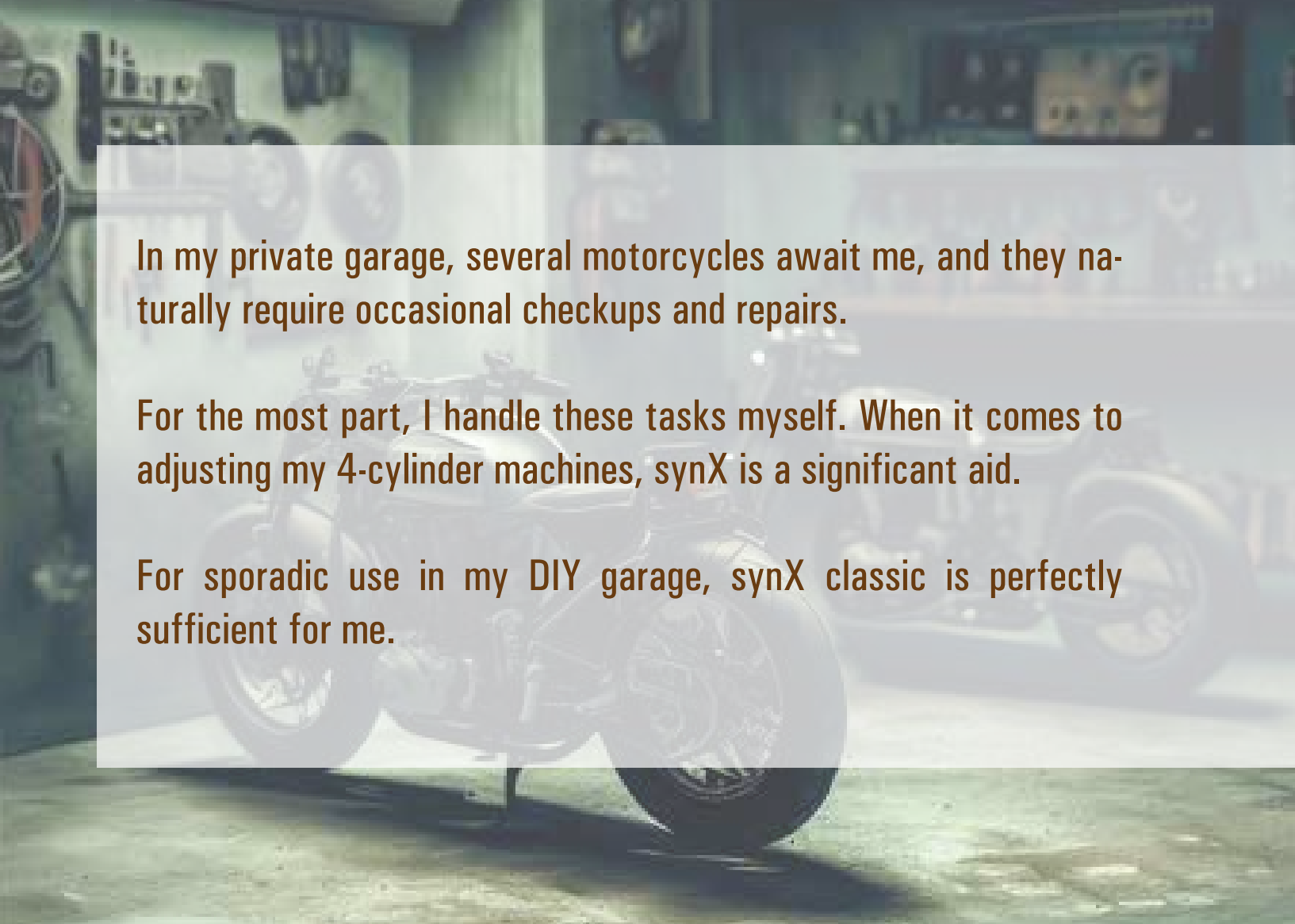
In my workshop, as a master motorcycle mechanic, I set the pace myself. I work independently of any higher-level directives and can schedule time for troubleshooting and diagnostics on my own.

Both synX profiline and synX classic are a great choice for me and my team. Both are used almost daily in the workshop for diagnostics and carburetor adjustments.

HOBBY-MECHANIC



Michael | passionate hobby mechanic



In my private garage, several motorcycles await me, and they naturally require occasional checkups and repairs.

For the most part, I handle these tasks myself. When it comes to adjusting my 4-cylinder machines, synX is a significant aid.

For sporadic use in my DIY garage, synX classic is perfectly sufficient for me.

The AutoRange and AutoZoom features of the synX proline allow for extremely precise synchronization in a minimal amount of time. Its detailed analysis functions assist in diagnosing leaks and valve issues. It combines a graphic-numeric display with easily readable measurements in mbar.

AutoRange Feature

Automatically adjusts the measurement range based on the current remaining pressure difference - no manual range switching is required!

AutoZoom Feature

The graphic representation of measurements automatically "zooms in" with greater accuracy towards the remaining pressure difference.

Included in the package:

- **Sturdy plastic case**
- **Adapter set with hoses, threaded nozzles M5 and M6, T-connectors, and caps**
- **Power adapter and connection cable for battery charging and battery pack**
- **Tank and seat cushion for a non-slip grip in the optimal reading position**

The synX profi line

Synchronization is your daily business. For a quick synchronization process, we have developed an automatically adjusting measurement range switching and display: AutoRange and AutoZoom.

This saves you valuable time in the hectic workshop life.

- Automatic measurement mode
- Automatic calibration
- Manually adjustable display damping
- Measuring/Displaying/Presenting absolute pressure
- Measuring/Displaying/Presenting differential pressure
- Min-Max display/presentation
- Pressure profile display
- For 2 to 4 intake tracts



Equipment:

- Graphic LC display with automatic backlighting
- Operation with 3 batteries LR6 (Mignon, AA), NiMH or NiCad rechargeable batteries possible
- All-round rubber impact protection

Scope of delivery:

- **Carrying case**
- **Batteries**
- **Adapter set with measuring hoses, M5 and M6 threaded grommets, T-pieces and cover caps**

The synX classic

Are you an amateur mechanic or have a small workshop, occasionally performing synchronizations?

Then the synX classic is perfect for you because you have the time and patience to gradually explore through measurement resolution and display damping.

- Measuring/displaying/displaying the absolute pressure
- Measuring the differential pressure
- Min-max display/display
- Pressure curve display
- Manually adjustable display damping
- Measuring/displaying/displaying the engine speed
- All measurements for 2 to 4 intake tracts





YOUR CONTACT PERSONS

If you have specific questions about any of our **MOTOR PRODUCTS**, our contact persons **Charlotte** and **Christoph** are available.

It's best to send us an email in advance, so we can respond to your questions in a targeted and detailed manner.



Motorcycling embodies freedom for me.

Thanks to x-log, I not only obtained my motorcycle license but also had the opportunity to test and use the products I represent.

kurvX, the curve sensor, accompanies me on every ride since then, and synX assists me in the optimal care of my classic old 2 cylinder motorcycle.



Charlotte Matzner
Motor Products

Email: cm@x-log.de



Christoph Meyke

Motor Products

Email: cmeyke@x-log.de



As a motorcyclist and training instructor, I am passionate about sharing my knowledge.

Our two devices, kurvX and kurvX4trainer, assist me in this endeavor. Additionally, with the synchronization tester synX, I represent a product that supports motorcycle enthusiasts in preserving what they need and love.

synX Advisory Board

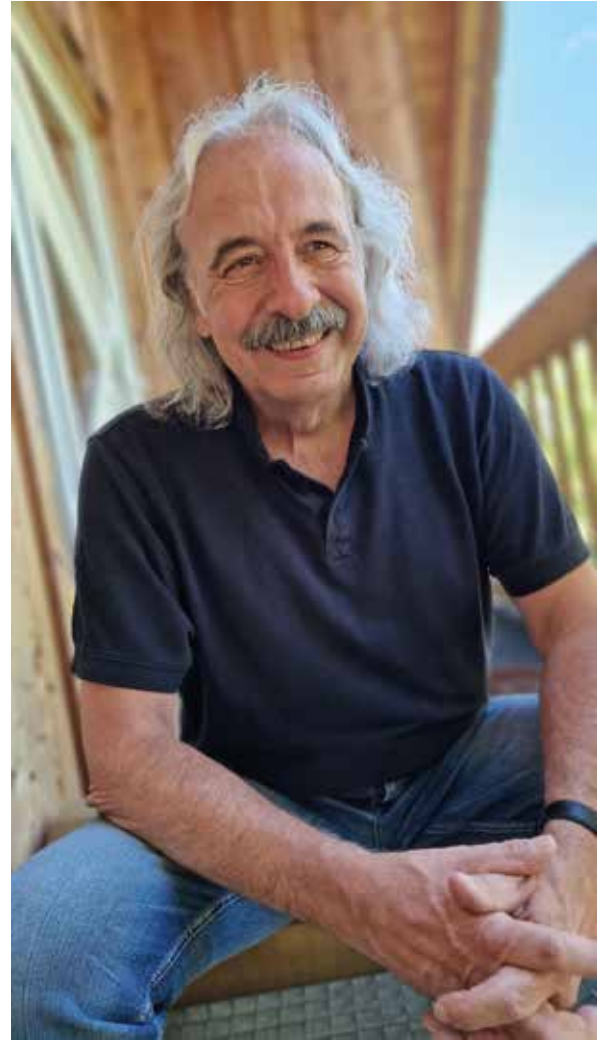
” **Passionate Mechanic**

Since the inception of **synX**, I have been supporting x-log as a member of the advisory board, addressing specific questions related to synchronization and challenging tuning issues.

I was fortunate that, at the beginning of the 1980s, Fritz Lottmann, the BMW guru, was looking for someone to join his workshop.

As fate would have it, I spent the next few years with him. He taught me everything about motorcycles (Thanks, Lottmann). We even worked on competitive motorcycles like the famous Paris-Dakar BMWs between 1984 and 1986. During this time, we built dozens of racing engines. I learned what tuning and quality truly meant: not just peak performance but enduring at full throttle for hours.

For some time now, I've also been on YouTube. My channel is called "Mose's Classical Workshop." There, I regularly share insights from my own workshop and those of my friends, discuss motorcycles, and provide technical tips.





service@x-log

When a product finally leaves our factory in the heart of Bavaria, it's far from forgotten for us! We offer a 5-year warranty because we trust in the quality of our products. If, however, a malfunction occurs, we analyze and eliminate the cause as quickly as possible. Providing customer-centric service is a matter of course for us.

Our Service-Adress:

x-log Elektronik GmbH
synX Service

Kapellenstraße 5
D-92245 Kümmersbruck-Moos

– Germany –

Many more details about synX, the synchronization tester, can also be found on our website:

www.synx.de







www.kurv.de

THAT IS **kurvX**

kurvX the curve sensor is a compact and lightweight accessory that can be attached to almost any motorcycle.

We have installed a 6-axis sensor in it, which precisely records various accelerations and rotation rates. In combination with the kurvX app, the kurvX cornering sensor offers motorcyclists the opportunity to improve their lean angle in a targeted manner and thus develop a safe riding style when cornering.

With the kurvX app, riders can set their individual parameters before setting off. During the ride, the kurvX cornering sensor continuously communicates the position of the vehicle during and after cornering via its easy-to-read e-paper display.

After the journey, comprehensive data is available for analysis. The app's user interface focuses on the recorded curve data and presents it in a clear design.

kurvX – MADE IN GERMANY

We are not climate activists.
We protect our environment sensibly.
That's why we have opted for printing on
recycled paper that has been awarded the BLUE ANGEL label.



Art.Nr. E80-4042

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www.synx.de

