Trainee project at Audi Neckarsulm: NSU Prinz with e-tron power

- **To mark the 150th anniversary at Audi's Neckarsulm site, twelve apprentices electrified a classic car made in Neckarsulm**
- **An NSU Prinz 4L built in 1971 received a powertrain using components from the Audi e-tron and the Audi Q7 TFSI e quattro*.**
- **Audi Board Member for Human Resources Xavier Ros: "Projects like this show that our company has a strong future thanks to our young talent."**

Neckarsulm, July 8, 2023 - Family Day debut: To mark the 150th anniversary at the Audi site in Neckarsulm, twelve apprentices at the Four Rings electrified an iconic classic car. On July 8, trainees from the automotive mechatronics, bodywork, and vehicle construction mechanics and painting courses proudly unveiled the "EP4". The "E" stands for electric drive, and the "P4" for the NSU Prinz 4, a model produced in Neckarsulm by NSU Motorenwerke from 1961 to 1973.

" We wanted to build a car that was not only fast and looked cool but also honored the 150th-anniversary of the site," says Dean Scheuffler, an apprentice automotive mechanic at Audi in Neckarsulm. The perfect starting point: an NSU Prinz 4 built in 1971, which had been off the road for decades until its resurrection in January 2023. The apprentices awoke this "prince" from its slumber and fitted it with a new high-voltage heart.

But it was a long roadfrom the project launch in January to the big reveal at the Family Day. In numerous team meetings, trainees, trainers, and project managers exchanged views on the project‘s status, challenges, and next steps. The first task was to create a solid foundation for the conversion. Mizgar Doman Hassan, an apprentice bodywork and vehicle construction mechanic, recalls: "When we got the car, its body had several rust spots. These areas were the first thing we fixed."

The drive: electrifying and emission-free

While the budding body and paint specialists tackled the classic car’s chassis and outer skin, the future automotive mechanics got to work on the powertrain, battery, and suspension.

The rear of the “prince,” where a two-cylinder gasoline engine with 30 hp (22 kW) once resided, is now home to a 240 hp (176 kW) electric motor.

It comes from a 2020 Audi e-tron and gets its power from a battery from the plug-in hybrid Audi Q7 TFSI e quattro*.

The battery sits under the front hood, where the NSU Prinz once had its fuel tank. The electrified machine breathes cooling air through a wide air intake at the bottom of the bumper, while heat can escape through a large opening in the front hood. The tailgate also improves cooling and can be fixed in a half-open position. Thus, it reveals the electric power plant and is reminiscent of historic racing cars based on the sporty NSU Prinz 1000. Where a row of open carburetor funnels gave onlookers clues about the sporting intentions of these cars back then, the EP4 now displays its electric motor.

The exterior: athletic and historic

For the apprentices, it was clear that their EP4 should proudly show that it began life as an NSU Prinz. The historic elements, therefore, include not only the front and rear lights. The body from the 1970s also retained its characteristic shoulder and roof lines. The apprentices freed the sheet metal from rust and painted it in Audi colors Suzuka Grey and Brilliant Black. Accents such as the anniversary lettering "150" were applied to the side of the vehicle.

The big leap in performance required extensive modifications to the chassis and the bodywork. A modified floor pan from an Audi A1, including brakes and axles, forms the base. The apprentices mounted the extensively modified and significantly widened body on top. The muscular fenders are unmistakably athletic. The apprentices designed these with the support of Audi Design and turned them into reality using 3D printing. Wide wheels are tucked beneath the fenders. Thanks to modern performance tires, they provide the necessary grip during acceleration and sporty cornering.

"The eye travels with you! We wanted the EP4's performance to be visible from every angle," explains Cynthia Huster, apprentice automotive painter. The rear wing, painted Signal Yellow, gives the EP4 a particularly sporty appearance. The twist: The wing is not attached to the bodywork, as in other vehicles, but to the roll cage. Its supports, therefore go through the rear window.

The interior: racing and minimalist

The Signal Yellow roll cage makes for an eye-catching contrast in the interior. Apart from that, the interior – typical of racing cars – is reduced to the essentials; all other painted surfaces are black. The occupants sit on "Recaro Podium" bucket seats.

A single-board computer and corresponding screen serve instruments and displays. They are also the vehicle's speedometer and onboard computer and perform diagnostic tasks.

**The collective fuel/electric power consumption and emissions values of all models named and available on the German market can be found in the list provided at the end of this text.*

Talents work with passion and forward-looking technology

In all the steps, the trainees put the knowledge they had acquired during their training to practical use. Timo Engler, Head of Training Vehicle Technology/Logistics, explains: "The project gave our apprentices a chance to work freely with different techniques and materials. For example, in addition to the electric drive, they used 3D printing, a second technology of the future. Carbon fiber - familiar from motorsport - was also used for the front hood.

But the trainees have not only learned a lot in terms of craftsmanship. Engler: "In the case of EP4, the vision and deadline were very ambitious. It's great to see how the junior staff have grown with their task and what a leap in development they have made as a team."

Last but not least, the trainees could get valuable tips and support from Audi's Technical Development anytime. In this way, they automatically learned a lot about Audi's processes and got to know various experts from other company branches.

History meets the future

Whether as symbols of the German "Wirtschaftswunder" (Miracle on the Rhine) or as racing cars that still score wins at hill climbs: NSU vehicles have made history and continue to inspire car enthusiasts to this day. With its charm and electric drivetrain, the EP4 stirs anticipation for the coming all-electric chapters in the continuing story of Audi's Neckarsulm site.

Audi Board Member for Human Resources Xavier Ros was impressed with the unique project. "With admirable commitment and considerable creativity, our apprentices have built a tremendous car. They can be really proud of the result," said Ros. He added: " Projects like this show that our company has a strong future thanks to our young talent."

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Communication Neckarsulm
Luise Wörner
Spokesperson Audi Neckarsulm for
Personnel and Organization
Tel.: +49 152 32749404
E-mail: luise.woerner@audi.de
www.audi-mediacenter.com

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In 2022, the Audi Group delivered 1.61 million Audi vehicles, 15,174 Bentley vehicles, 9,233 Lamborghini vehicles, and 61,562 Ducati motorcycles to customers. In the 2022 fiscal year, AUDI Group achieved a total revenue of €61.8 billion and an operating profit of €7.6 billion. Worldwide, more than 87,000 people worked for the Audi Group in 2022, over 54,000 of them at AUDI AG in Germany. With its attractive brands, new models, innovative mobility offerings and groundbreaking services, the group is systematically pursuing its path toward becoming a provider of sustainable, individual, premium mobility.

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Fuel/electric power consumption and emissions values of the models named above:**

Audi Q7 TFSI e quattro
Combined fuel consumption in l/100 km (62.1 mi): 2,2–2,0 (106,9 - 117,6 US mpg); Combined electric power consumption in kWh/100 km (62.1 mi): 23,9–23,0; Combined CO2 emissions in g/km: 51–45 (82,1 - 72,4g/mi)

***The indicated consumption and emissions values were determined according to the legally specified measuring methods. The WLTP test cycle completely replaced the NEDC on January 1, 2022, which means that no NEDC figures are available for vehicles with new type approvals from after this date.*

The figures do not refer to a single, specific vehicle and are not part of the offering but are instead provided solely to allow comparisons of the different vehicle types. Additional equipment and accessories (add-on parts, different tire formats, etc.) may change relevant vehicle parameters, such as weight, rolling resistance and aerodynamics, and, in conjunction with weather and traffic conditions and individual driving style, may affect fuel consumption, electrical power consumption, CO2 emissions and the performance figures for the vehicle.

Due to the more realistic test conditions, the consumption and CO2 emission values measured are in many cases higher than the values measured according to the NEDC. This may result in corresponding changes in vehicle taxation since September 1, 2018. Additional information about the differences between WLTP and NEDC is available at www.audi.de/wltp

Further information on official fuel consumption figures and the official specific CO2 emissions of new passenger cars can be found in the "Guide on the fuel economy, CO2 emissions and power consumption of all new passenger car models", which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, Germany (www.dat.de).