

WELCOME @ ADZ NAGANO GmbH

COMPANY PRESENTATION  
HYDROGEN APPLICATION

**FUTURE.** MADE IN OTTENDORF-OKRILLA.

**OUR SENSORS,  
FOR YOUR MEASUREMENTS.**



# OVERVIEW

1. [Facts](#)



*... who we are ?*

2. [Industries](#)



*... who are our customers ?*

3. [Products](#)



*... what you get from us ?*

4. [Services](#)



*... what sets us apart ?*

5. [Capabilities](#)



*... what is possible ?*

6. [Utilization](#)



*... where are we already on board ?*

7. [Contact](#)



*... how to get your individual solution ?*



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... the content  
but not the contact



## ADZ NAGANO

- Foundation
- Location
- Employees
- Sales
- Certification

*... who we are ?*

*... your partner in customer-specific solutions for pressure-, temperature- and force-measurement*

*... October 1998*

*... GmbH in private + partner ownership*

*... Ottendorf-Okrilla [ near Dresden ] Germany*

*... 110 incl. ~25 R&D [ @2021 ]*

*... 20 Mio € [ @2021 ]*

*... Company IATF 16949:2016*

*EN 9100:2018*

*ATEX / IECEx*

*... Products*

[EC79/406](#) 

*ECE-R10 ECE-R110*

*German Lloyd Rail*

*UL MIL*



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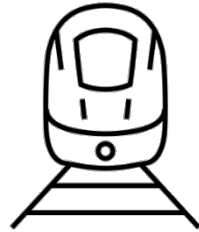




**ADZ NAGANO**

**... pressure-, temperature- and force-sensors/switches  
for all industries**

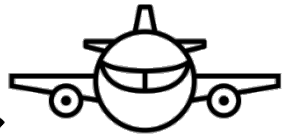
RAILWAY



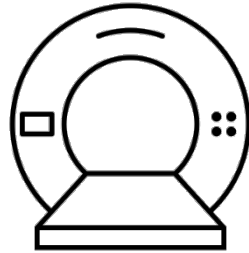
VEHICLE  
TECHNOLOGY



AEROSPACE



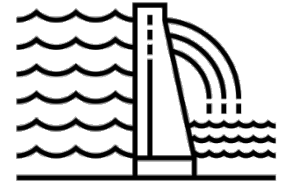
MEDICAL  
TECHNOLOGY



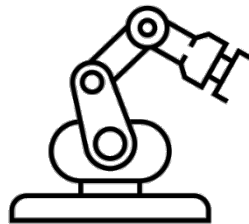
MARINE



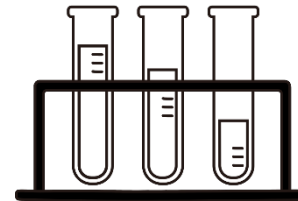
ENVIRONMENTAL  
ENGINEERING



MECHANICAL  
ENGINEERING /  
FACTORY  
AUTOMATION



PROCESS  
TECHNOLOGY



MOTORSPORT



**... AND MANY MORE**

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### ADZ NAGANO

*... we measure everything !*

- Sensor portfolio

*transmitters*

*sensors*

*electronic switches*

*... for measuring of ...*

*pressure [ absolute, gauge, differential ]*

*temperature*

*force*

*... and combined*

- Measuring range

*... 2 mbar <> 5000 bar -200 °C <> +200 °C*

- Environment

*... H<sub>2</sub>, harsh, chemicals, fuel, oil, gas, food & beverage, water*





## ADZ NAGANO

... *to the utmost !*

- H<sub>2</sub> specific Pressure sensor

# SH2



... *our offer for your H<sub>2</sub> application*

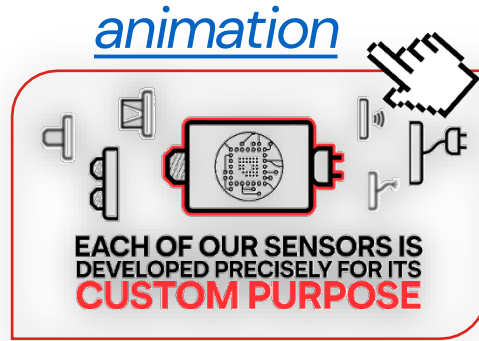
- Measuring ranges ... *2 bar <> 700 bar* [ [EC79/406 approved](#) ]
  - ... *1500 bar*
  - ... *≥ 50 mbar* [ *@316L* ]
  - ... *-40 °C <> +125 °C*
- Materials ... *316L and SUH660* [ *no hydrogen embrittlement !* ]
- Pressurized media ... *H<sub>2</sub>*



## ADZ NAGANO

... our products – as individual as our customers !

- USP



... product & sensor system design

... modular system of standardized ...

- components
- designs
- internal interfaces
- assemblies

for ...  
 ... customized solutions  
 ... specific modification

for ...  
 ... ≥1 pcs  
 ... up to 50T pcs

... optimal degree of automation

➤ tailor-made solutions for specific requirements in specific application



# Capabilities

## ADZ NAGANO

- Management
- Engineering
- Technologies
- Production

... *what is possible ?*

... *your partner at eye level !*

... *projects*

... *requirements, configurations*

... *product life cycle, replacements*

... *documents*

... *mechanics, electronics [ hardware ]*

... *industrialization*

... *tests, verification, qualification*

... *mechanical machining, laser beam welding*

... *automatic soldering machine*

... *assembly, calibration, acceptance test*

... *prototypes [  $\geq 1$  pcs ], series [ up to 50T pcs/y ]*

Overview



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- Sunfire [ Germany, Dresden, [sunfire.de](http://sunfire.de) ]



- Pressurized alkaline electrolyzers
- Production: "green" hydrogen
- System pressure: ~30 bar (for generated hydrogen), purity >99.6%
- Design-relevant nominal pressure of the pressure sensors: 70 bar
- H<sub>2</sub>-Production capacity: 2,230 Nm<sup>3</sup>/h



- Fuel cell powered drones
  - For civil applications in the field of security, agriculture and construction
  - System pressure: ~350 bar
  - Design-relevant nominal pressure of the pressure sensors: 700 bar
  - H<sub>2</sub>-Tank capacity: 9 L



- Fuel cell powered local public transport, ships, trucks and decentralized supply
  - System pressure: ~20 bar
  - Fuel cell nominal power: up to 200 kW
  - Use of the pressure sensors for monitoring / monitoring in:
    - tank system
    - cooling systems
    - H<sub>2</sub> cycle

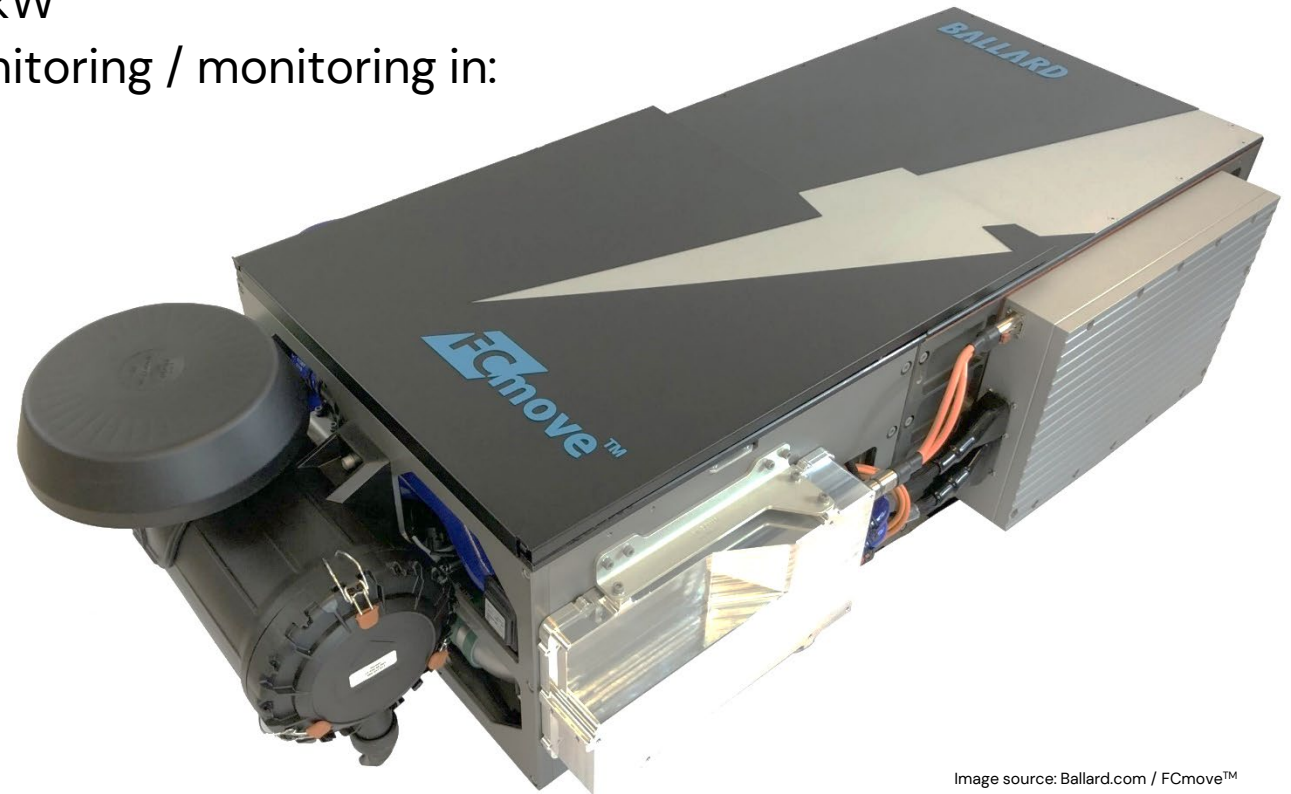


Image source: Ballard.com / FCmove™

THANK YOU VERY MUCH  
AND  
CONTACT US FOR YOUR INDIVIDUAL SOLUTION

[www.adz.de](http://www.adz.de)

[sales@adz.de](mailto:sales@adz.de)



ADZ NAGANO – GREAT THINGS ON A SMALL SCALE

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