OPES
SOLUTIONS


# SOLAR SOLUTIONS
# MADE FOR VEHICLES

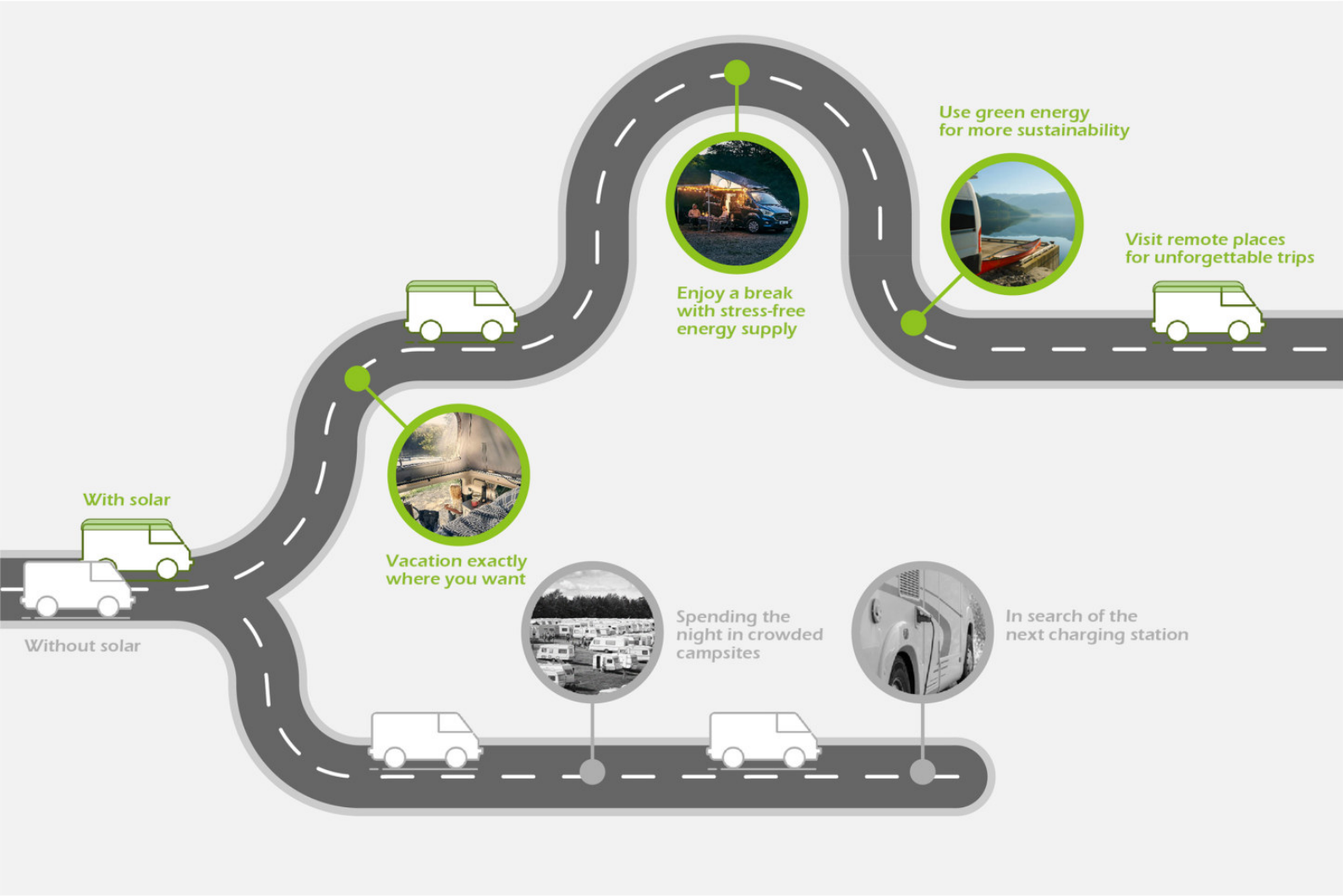
# SOLAR FUELED FREEDOM

## 72% OF ALL CAMPERS

are looking for the ultimate sense of freedom and independence when camping

SOURCE: GFK AUGUST 2019 | POTENZIAL FÜR DEN CARAVANING-MARKT IN DEUTSCHLAND

# ENABLE AUTONOMY



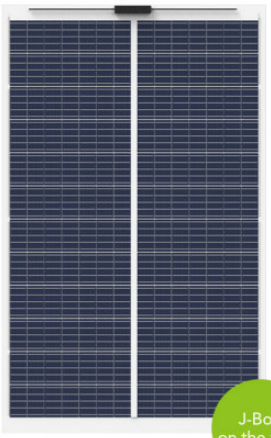

"IN SUNNY OR SLIGHTLY CLOUDY WEATHER, **A SELF-SUFFICIENT POWER SUPPLY OF ALL 12V COMPONENTS** IN THE VEHICLE IS POSSIBLE WITHOUT THE NEED FOR A 230V CONNECTION."

WESTFALIA

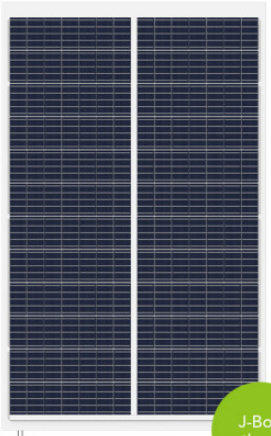
# THE 1ST FLEXIBLE SOLAR PANEL
# MADE FOR VEHICLES

| | SFX 420 F | SFX 420 R |
|---|---|---|
| **ELECTRICAL SPECIFICATION** | | |
| Cell Type | Mono crystalline | |
| Power Output (Pmp) | 420W | |
| Short-Circuit Current (Isc) | 9.79A | |
| Open-Circuit Voltage (Voc) | 56.50V | |
| Current at Pmax (Imp) | 8.87A | |
| Voltage at Pmax (Vmp) | 47.34V | |
| Cell Efficiency | ≥23% | |
| Electrical Tolerance | -5%~+10% | |
| **MECHANICAL PARAMETERS** | | |
| Module Weight | 8kg | |
| Module Dimension | 2000 x 1230 x 3mm | |
| Bending Radius | 25° | |
| Operating Temperature | -40 - 95°C | |
| **Quality** | | |
| Poduct Warranty | 2 years | |
| Power Output Warranty | 10 years / 80% | |
| Specific Tests | T-peel, waterproof, ice water shock, vibration, salt spray, hail, high pressure cleaning and many more | |
| Certificates | ISO 9001, ISO 14001, ISO 45001, IMDS listed | |

Values at standard test conditions (STC). Specifications subject to technical changes.


OPM4200A



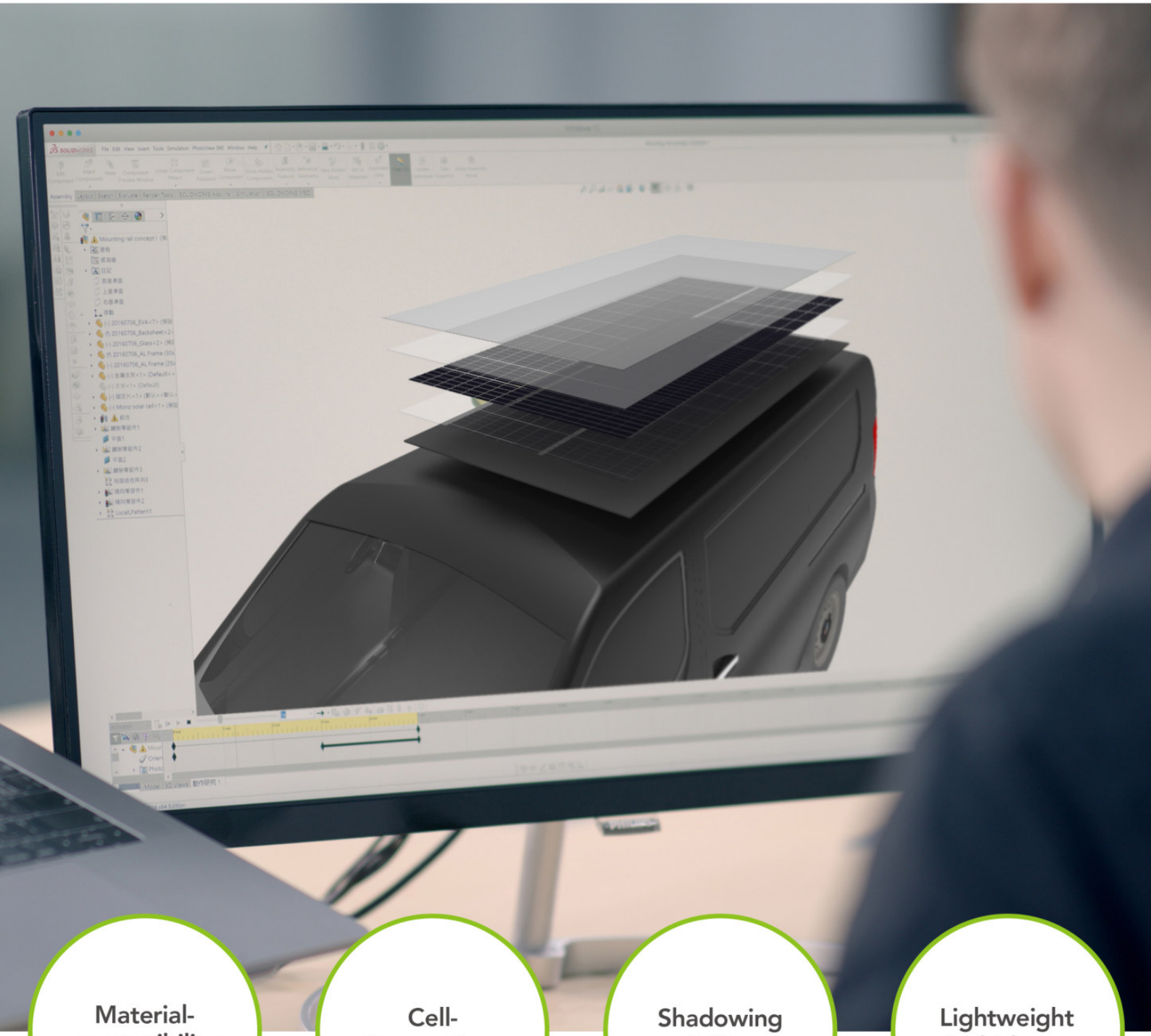

OPM4200B

*Other standard panels or custamization available

## FEATURES FOR CAMPING VEHICLES

- Clean and professional wiring provide elegance and safety
- Minor change in vehicle height due to flat design and frameless mounting
- Performance display in the cockpit enables a simple overview
- Surplus solar energy charges the starter battery of the vehicle
- Safe and durable adhesion due to bond-tested materials
- Roof rack systems can still be used

# WHY SHOULD SOLAR PANELS BE DESIGNED FOR VEHICLES?



## Material-compatibility

The bond between the module and the vehicle surface is crucial for performance. To ensure optimal impact resistance, ventilation, and response to temperature, we conducted extensive testing of our panels in combination with different materials.

## Cell-Connections

Solar modules are typically not subjected to vibrations, which is a crucial factor in the extended lifespan of our panels compared to conventional flexible solar panels. Our panels feature innovative joints that are resistant to vibrations and do not break.

## Shadowing & Size

Effciency is a crucial. When vehicles are in motion, shadows become more dynamic. Our smart diodes enhance effciency in such situations, while the unique size of the solar panel ensures optimal utilization of the available area.

## Lightweight & Thickness

Our thin and lightweight panels comply with automotive regulations and offer excellent performance. In comparison to thin-flm technology, our modules deliver 30% more power while still benefitting from minimal drag. The vehicle height is barely affected.

# MARKET LEADING OFF-GRID SOLAR MANUFACTURER

**FACTORY IN GERMANY STARTING Q4 2024**

## Founded 2012
To realize the potential of solar energy and make it usable for every application

## 500 Employees
R&D and Business Development in Berlin, Shanghai & Hong Kong, Factory in Changzhou

## 13.000 m² Factory area
Self developed automation equipment for innovative production processes

## >10 million modules
Leading output of solar panels in off-grid systems all over the world

## 50+ Patents in products and production
Strategic partnership with Fraunhofer Center CSP; Research Center in Germany & China.

OPES SOLUTIONS
10 YEARS 2012-2022
Solar – Right where it's needed

OPES Solar Mobility GmbH
Zeppelinstraße 1
12529 Schönefeld

+49 (0) 30 – 284 237 80
info@opes-mobility.com
www.opes-solarmobility.com