

bedra

# SERIES-READY WIRE & PROFILE SOLUTIONS

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FOR CONSUMER  
DEVICES

**bedra**  
intelligent alloys

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# Series-ready wire & profile solutions for consumer devices

bedra electronic wire is trusted worldwide for passive and electronic components. In consumer devices, it serves as a key enabler for contact, charging and interface functions. Beyond these core uses, adjacent applications such as brush fixation, winding, actuation and defined heating paths also benefit from bedra wire solutions – all backed by proven expertise in alloys, profiles, surface quality and process reliability

## Application overview

Contact & signal

Charging & power

I/O & interfaces

Brushware

Winding & actuation

Heating & thermal functions

## Core capabilities



### Materials & alloys

More than 100 alloy variants, customer-specific development and own foundry capability for demanding specifications and application-specific requirements.



### Precision profiles

Square, rectangular, octagonal, flat and round wires with tight tolerances, defined edge radii, customer-specific straightness and exact layer winding.



### Surface finishing

Pure tin, nickel or copper barrier layers and multilayer systems with in-house electroplating, reflow capability and RoHS-compliant processing

## bedra at a glance

**135+ years**  
of wire expertise since 1889

**Own foundry**  
for customer-specific alloys and fast response

**In-house R&D**  
Development and qualification support

**100+ alloys**  
for demanding application requirements

**30 million km**  
of precision wire and rod per year

# Contact & signal | Charging & power | I/O & interfaces

These function clusters cover conductive interfaces in compact consumer devices and related accessories – from signal and connector functions to charging and device-side interfaces.

## Applications & portfolio

- **Typical applications:** smartphones and handhelds | portable computing devices | routers and smart-home hardware | monitors and peripherals | chargers, power banks, charging cradles and docking stations
- **Typical portfolio:** round, flat, square and profiled wire solutions | contact profiles | spring profiles | coated wire and profile variants
- **What matters in processing:** defined geometries, clean surfaces, dimensional consistency and stable feed behaviour for automated assembly
- **Available on request:** datasheets, material and batch documentation, qualification support and application-specific technical review



### Contact & signal

Smartphones and handhelds, portable computing devices, routers, smart-home hardware, monitors and peripherals.

**Typical end use:** compact electronic and consumer devices with signal and contact functions



### Charging & power

Wearables, USB chargers, power banks, docking stations, charging cradles and portable computing devices.

**Typical end use:** charging and power-contact functions in compact devices and related accessories



### I/O & interfaces

Device-side interfaces in laptops, monitors, peripherals, routers and smart-home devices.

**Typical end use:** device-side connector, port and interface functions in compact electronic systems

#### Typical portfolio for these clusters

- Round, flat, square and profiled wire solutions
- Contact profiles and spring profiles
- Clean-surface variants for demanding contact and interface functions

#### Why this matters in processing

- Tight tolerances and stable positioning support automated assembly
- Defined surfaces support reliable contact and interface processing
- Good basis for early sample and qualification discussions

# Heating & thermal functions | Winding & actuation | Brushware

These function clusters extend the consumer-device view beyond classic contact and interface applications. They cover adjacent consumer functions in which bedra supports brush fixation, winding and actuation, and defined heating paths with related wire solutions and the same core strengths in alloys, profiles, surfaces and process reliability.

## Applications & portfolio

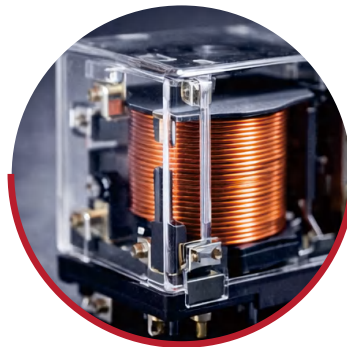
- **Typical applications:** oral care products, cosmetic brushes and fine-brush applications | fans, blowers, small appliance motors, relays, solenoids, transformers and inductive devices | other heated consumer appliances
- **Typical portfolio:** anchor wire and profile variants | enamelled winding wires (magnet wires) | heating conductors | coated functional wires for thermally or electrically stressed applications
- **What matters in processing:** defined insulation build-up, dimensional consistency, precise grooving or knurling where required, and stable winding or feed behaviour
- **Available on request:** documentation, qualification support and customer-specific alloy, geometry and surface development



### Heating & thermal functions

Electric blankets, electric pillows, heating pads, heated gloves and other heated consumer appliances.

**Typical end use:** heating conductors and coated functional wires for defined heat output in heated consumer applications



### Winding & actuation

Fans, blowers, small appliance motors, relays, solenoids, transformers and inductive devices.

**Typical end use:** winding, coil, inductive and actuation functions in compact devices and small appliances



### Brushware

Oral care products, cosmetic brushes and selected fine-brush applications.

**Typical end use:** brush fixation and tuft-retention applications in oral care, cosmetic and finebrush products

#### Portfolio focus

- Heating conductors and coated functional wires for defined heat output and thermally or electrically stressed applications
- Enamelled winding wires (magnet wires) for winding and actuation functions in compact devices and small appliances
- Anchor wire and profile variants for oral care and fine-brush applications

#### Processing strengths

- Defined insulation build-up and dimensional consistency
- Precise knurling or grooving on request, where required by the application
- Clean surfaces and process stability for series-oriented production

# Why bedra?

bedra combines strong electronic-wire competence with adjacent wire solutions for brushware, winding and heating-related consumer applications.

## Materials, development & foundry

- More than 135 years of wire expertise since 1889
- Over 100 alloy variants and more than 30 million km of precision wire and rod per year
- Own foundry for customer-specific alloys and fast response to market requirements
- Market-close R&D and application-focused development for new application fields, geometries and surfaces

## Precision, surfaces & processing

- Square, rectangular, octagonal, flat and round wires in smooth or knurled designs
- Tight tolerances in dimension, diagonal, edge radius and customer-specific straightness
- In-house electroplating from pure tin to nickel or copper barrier layers and multilayer systems
- Reflow technology, clean surfaces and RoHS-compliant processing for reliable solderability

## Variety of wire geometries

bedra is the specialist for square, rectangular and octagonal profiles, as well as flat and round wires in smooth and knurled designs.

## High-quality surface finishing

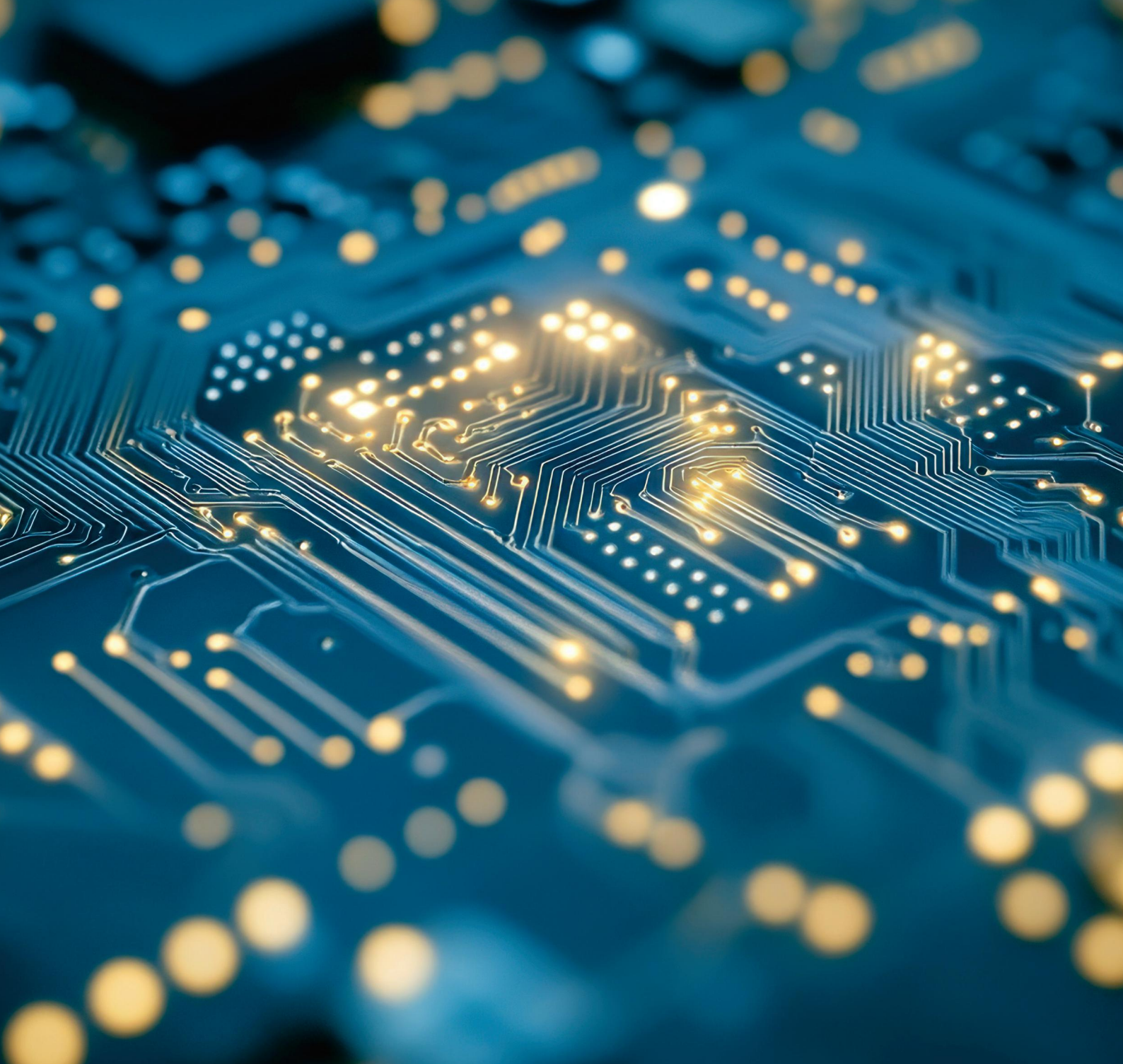
Functional layers are applied on in-house electroplating equipment – from pure tin to nickel or copper barrier layers and multilayer systems.

## Highly precise knurling

On request, wire and profile solutions are available with highly precise knurling or grooving while maintaining customer-specific tolerances.

## Documentation & qualification support

Detailed datasheets, material and batch documentation, samples and qualification support are available as project requirements are defined.



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