



## THK on Trade Fair „Railway Interiors Expo 2017“ in Prague

*Visitors can see there, among others, prototypes of sensing chairs that can measure respiratory and heart rates, and stress level*



<https://www.youtube.com/watch?v=ndYaLn3vq6s>

THK introduces a prototype of „Smart Sensing Chair“ on „Railway Interiors Expo 2017“ (Prague, 14-15 November 2017). This chair is equipped by a smart sensors system that analyses a health condition of the sitting person e.g. respiratory rates, heart rates, stress level, and measure surrounding air parameters. The information can be then displayed on a monitor or on the personal cloud.

[www.thk.com/arguschair/en](http://www.thk.com/arguschair/en)



**Design:**

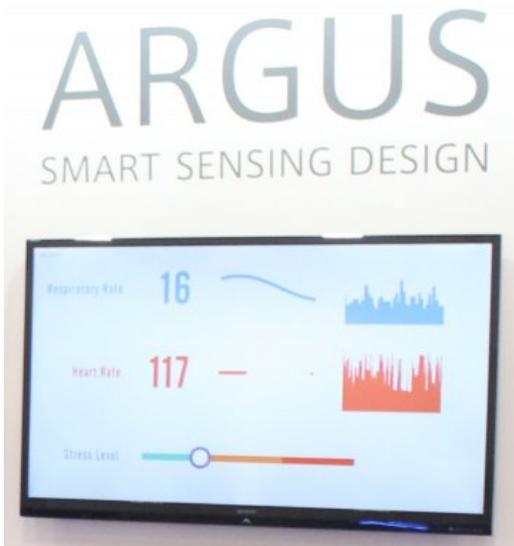
- Simple design of transparent polyacrylic material with a blue seat.
- Seat is equipped with sensors to measure body movement, and to take readings of the surrounding environments.
- THK's FBL56H+305LS slide rails are built into the seat, enabling sensor installation.
- Each of the three chairs exhibit different functions of this technology: one chair analyses a person's health, one conveys information by music, and one takes measurements of the surrounding environment.

**Prototype details:**

Slide rails built into the seat of the chair are used to pull the seat back to load or remove a microcomputer.

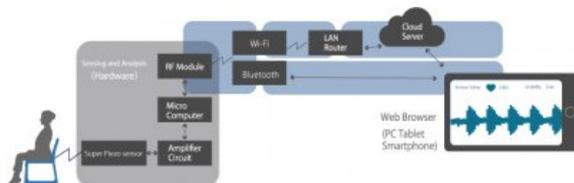


Various health statistics about the person sitting in the chair (respiratory rate, heart rate, and stress level) can be seen on a PC, tablet or smart phone.



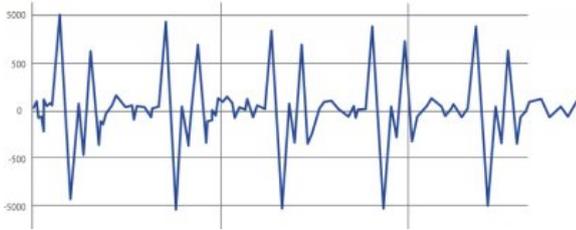
### Smart Sensing Chair System

- A body motion sensor installed in the chair measures heart rate, respiratory rate, and stress level.
- Data can be saved and reviewed in a cloud environment.



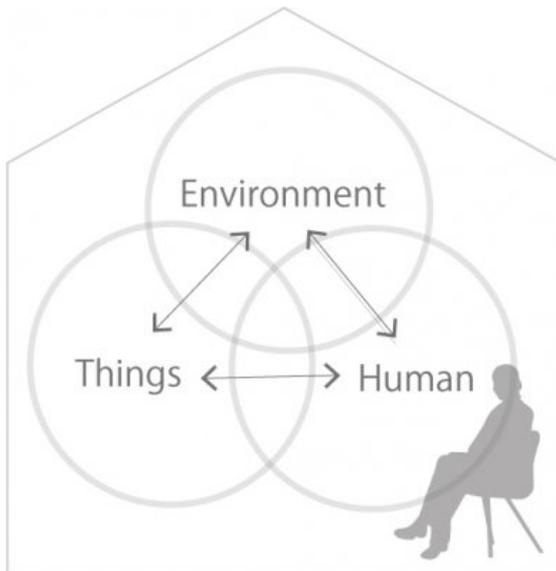
### Piezo Sensor

The tiny piezoelectric vibration sensor is designed to provide considerably reduced power consumption while maintaining high sensitivity in a wide range of frequency. It detects various ultra-fine vibrations at ultra-low frequencies produced by living bodies/non-living bodies at a high sensitivity. Through high accuracy analysis of pulse waveform, it is possible to grasp the condition of the heart and blood vessels.



## SENSING SCAPE

In our vision of Sensing Scape, the environment, things and human senses affect each other. This elaborate relationship creates the world of SENSING SCAPE.



### Other THK's products on exhibition

THK will display, besides this prototype, a plenty of its well-trying products that are used in train car interiors.

#### Slide Rails FBL

Slide rails are a low-cost alternative to rolling linear guides. They consist of precise shapes made of steel or aluminium. Thin, compact, easy to install rails are fitted for various applications. They are produced in single-slide or double-slide versions. Their stroke in standard versions is about 0,5m, in robust versions up to 1.5m; it can be enhanced by double-slide, three-rail design.

<http://www.thk.com/?q=eng/node/246>

#### Linear Ball Guides SHS

Linear ball guide SHS consists of a precise steel guide rail and a cage with balls. Since each row of balls is arranged at a contact angle of 45°, this guide can be used in any direction. Cages are produced with various configurations of mounting holes; for higher load with an extended length.

<https://tech.thk.com/en/products/thkdlinks.php?id=314>

#### Curved Ball Guides HCR

Design of the curved ball guides HCR is very similar to the linear guides but their guiding rail is curved. These guides are produced with a radius of curvature 0.1 m - 3 m.

<https://tech.thk.com/en/products/thkdlinks.php?id=315>

#### Cross-Roller Rings

Cross-Roller Rings are roller bearings with high rotation accuracy. Because they have orthogonally arranged cylindrical rollers, they can bear loads in every direction. There are produced in various variants: integrated model that can be used for both inner ring and outer ring rotation, model with space saving design for lower loads, model with higher precision or model with separable inner ring or outer ring.

<http://www.thk.com/?q=eng/node/252>

Visit THK on Railway Interiors Expo 2017 in Prague (November 14 - 15,

<http://www.railwayinteriors-expo.com>): booth 3005

**THK GmbH European Headquarters**

Sales Department

Phone: -

[info.ehq@thk.eu](mailto:info.ehq@thk.eu)

<http://www.thk.com/>

**Global Marketing Headquarters THK CO., LTD.**

2-12-10, Shibaura, Minato - ku , Tokyo Japan 108 - 8506

Sales Department

Phone: -

[thk-sp@thk.co.jp](mailto:thk-sp@thk.co.jp)

<http://www.thk.com/>