

openHPI – Internet Security

Privacy: Smart Watches and Health Trackers

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Smart Watches and Fitness Trackers

Smartphones, **smart watches**, **health** and **fitness trackers** are steady companions of users in their daily life

- Compared to smartphones, smart watches and fitness trackers have more sensors and can also collect the following data:
 - various health data, e.g.,
 - sleep monitoring, blood oxygen, etc.
 - heart rhythm (if sensor is installed)
 - activity data, e.g. pedometer
 - location data (if GPS is available)

Risks: Online Synchronization

Many new fitness and health trackers can be managed (partly exclusively only) via the manufacturer's website and show personal statistics/ results only when connected to the website

- Tracker must synchronize data to ensure basic functionality
- Default settings are often not ideal for data privacy

Example:

- **PolarFlow Web Page:** Name, photo and city are always public; if the privacy of sporting activities is not limited, every logged-in user (even without a polar device) can see training data including running routes ...

Risks: „Connected Fitness“

Fitness and health applications and gadgets are major trends in the market for mobile apps

- Dozens of different trackers on the market
- Body scales, blood pressure measurement, etc. with Bluetooth and app integration
- Hundreds of different apps, e.g., training protocols or nutrition diaries
- Health apps are increasingly interconnected, allowing, e.g., checking of all collected fitness and body data in one app
 - combination of data also allows extensive analyses for manufacturers or third parties with interests in this data
 - data privacy and storage location is often unknown

Health Data is Confidential

Data protectors advocate caution with fitness trackers

- Also, health insurance might be interested in the data collected
 - *Generali Vitality* is a pay scale where insurance customers receive bonus for a "healthy lifestyle"
 - *UnitedHealthcare* cooperates with *Qualcomm* to provide employees with free activity trackers for monetary benefits
- Germany: Government and Data Protection Commissioners fear a weakening of the solidarity principle in health care benefits – favoring "healthy" over "sick"

Responsible users currently have to consider data protection themselves:

- Check privacy policies of the device and app providers
- Make informed decisions on the use of the equipment