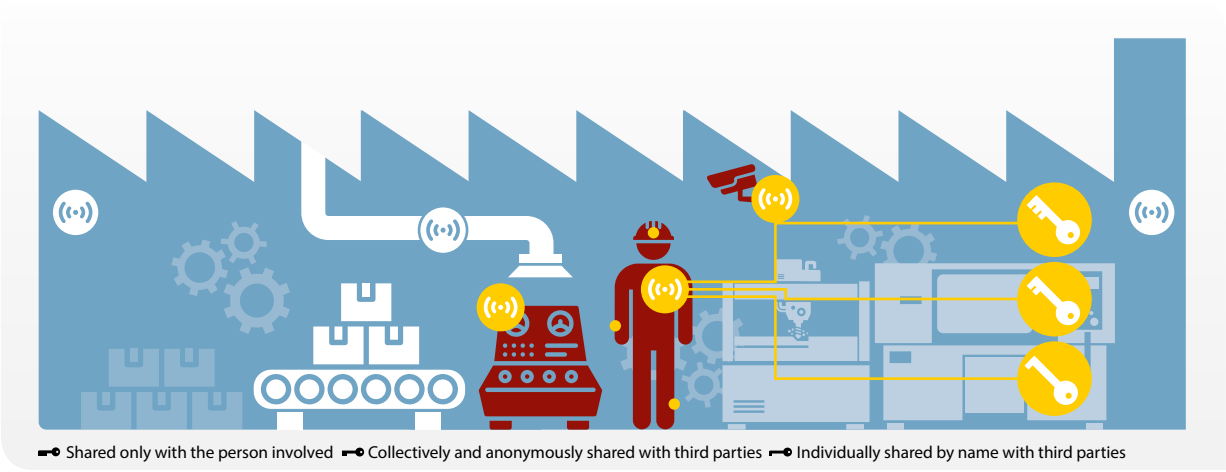
PERSONAL EXPOSURE SENSORS WITH CONTEXT-MEASURING TECHNIQUES



An exposure profile based on a personal exposure sensor is not easy to interpret. To understand what is causing peak or elevated exposures, insight is needed into what an employee has done, in what way, and under what circumstances, i.e. the context. This context can also be measured - in part - using sensors and other techniques, such as indoor location tracking, video cameras, and smart sensors that measure a person's posture or movement.

Advantages	Disadvantages
Combining context-measuring techniques with personal exposure sensor data helps to identify the most efficient control strategies.	A great deal of data needs to be collected, which is only useful when analysed as a whole. Software is needed to synchronise and interpret this data.
Offers the possibility of effective personal prevention.	Employees are obliged to wear one or multiple (light-weight) devices.
Offers the possibility of effective group-level prevention.	Data has to be shared between employees and the HSE manager.

ETHICS

- Sensors and other techniques can give people a 'Big Brother is watching you' feeling *(well-being)*;
- Much of this data is personal *(privacy)*;
- Employees should have a say in whether these techniques are used or not *(self-determination)*;
- These techniques collect data that has to be shared with others to be effective, e.g. the occupational hygienist *(privacy)*;
- Because a person's behaviour can be derived from this data, it could also be used in a negative way *(trust)*;
- The personalisation of exposure measurements could result in shifting responsibility for exposure reduction to employees themselves *(responsibility)*.