



COVID-19  
**SOCIAL DISTANCE  
MANAGEMENT**  
SDM by INTRANAV.

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## Use INTRANAV IoT, the digital twin, to immediately protect employees from corona, increase work safety and reduce the spread of infection.

The COVID-19 measures imposed by the German government have shown positive results and the first companies will start to ramp up production lines again in the next few days. But we should not misinterpret these signals, we still need to be extremely careful and especially now innovative technologies must be used to actively support us on this way back to normality and especially in view of the second COVID-19 wave. **INTRANAV** is one of these innovations that helps you to protect your employees through active Social-Distance-Management (SDM).

It was already the poet Johann Wolfgang von Goethe who, with the words "one should seldom despair of impossible things, never of difficult ones", appealed to people to face up to great challenges. Today we as a society must face the challenges of paying more attention than ever to our fellow human beings, supporting our neighbor and persevering even when it seems hopeless.

At **INTRANAV**, the innovative Eschborn-based IoT company, the will to help with a quickly deployable and sustainable security solution is very strong. Therefore, since the flare-up of the COVID-19 pandemic, it has put itself together and developed a software based on real-time sensor information that actively protects employees in offices, hospitals, pro-

duction & logistics halls against infections. An active social distance management app creates a digitally adjustable protection range of at least 1.5m to 2m for each employee. This "Safety Bubble" ensures that an invisible protective radius is placed around the employee and actively protects him in real time and warns him in dangerous situations by means of a visual and acoustic signal.

### Why is "social distancing" so important and how can real-time IT protect your employees?

Especially for companies and institutions that have to produce or maintain operations during these times, it is very important to reduce the risk of infection to

a minimum. Corona viruses can be transmitted by droplets. This means that the pathogens that settle in the throat or respiratory tract are carried into the air by tiny droplets of saliva when sneezing, coughing or speaking and can then be inhaled by another person or absorbed directly through the mucous membranes of the upper airways. In general, corona viruses are not particularly stable on dry surfaces.

Usually, inactivation takes place in a dried state within hours to several days. For the novel corona virus SARS-CoV-2, initial laboratory investigations by an American working group show that after heavy contamination it can remain infectious for up to 3 hours as an aerosol, up to 4 hours on copper surfaces, up to 24 hours on cardboard and up to 2-3 days on stainless steel and plastic. This can pose great risks, especially with regard to the workplace environment in companies, and therefore requires increased attention in hygiene routines.

The rules of conduct published by the Robert Koch Institute (RKI) help to minimize the risk of infection and protect people from the COVID-19 virus. **INTRANAV**'s Social-Distance-Management (SDM) App helps you to implement and control these 6 rules in your company.

- **Reduce contacts** - Companies where strict isolation and home office is not an option

now need to redesign their production lines or work environments to allow for human movement with sufficient distance. Even crowds of people must be prevented by replanning and new safety regulations. **INTRANAV** can avoid crowds of people and set individual routes.

- **Plenty of distance** - Avoiding contact with other people completely is a difficult challenge when it comes to resuming production. As a precautionary measure, the RKI advises not to hug or shake hands and to keep a distance of one to two meters. This prevents infected droplets and particles from coming into contact with other people. The personal protection zone set up by **INTRANAV** warns optically and acoustically if the safety distance is not reached.
- **Anti-cyclical passenger traffic** - crowds of people caused by rush hours must be actively avoided. This can be achieved by countercyclical group movements during lunch breaks and shift changes. Similar to FIFO management, **INTRANAV** SDM can control the movement of people counter-cyclically. Areas in front of elevators and in waiting rooms can thus be precisely controlled. Warning area traffic lights can also help to visualize the danger level of the respective area.
- **Avoid risk groups and protect at the same time** - Particularly older people and those with health problems are exposed to a particularly high risk. According to the latest statistics of the RKI, there was an increased number of chronically ill people among the fatalities who died from the consequences of the viral disease. It is therefore important to keep a safe distance to these risk groups and not to expose others or oneself to any danger. With the help of **INTRANAV** SDM, employees who belong to a risk group can be actively circulated and unnecessary contact can be avoided. An immediate quarantine zone can also



be created to isolate sick people and keep healthy people away from you.

- **A distance to fresh air** - A healthy immune system needs sunlight and plenty of oxygen. Virologist Christian Drosten advises not only to ventilate rooms frequently, but also to leave yourself out in the fresh air at a distance from others. Similar to a Smartwatch, **INTRANAV** SDM can advise employees to go out into the fresh air and
- **Maintain hygiene** - The RKI recommends not to touch your face and to wash your hands regularly for at least 20 seconds. The obligation to wear a mask is also gaining ground at international level. Corona viruses can be transmitted by touching surfaces such as door handles, transport racks, weighing machines, control elements, packaging materials, tools and displays. **INTRANAV** protects your employees by providing information on how to comply with hygiene guidelines. In the hopefully never-ending exceptional case, it is possible to trace, identify and close off areas and contact zones of persons suffering from corona. These temporary quarantine areas can be blocked for other employees. Colleagues who have been in contact with the sick person's living areas can be notified to take additional protective measures. Tools and work materials of infected persons can also be detected and blocked by a protective radius. In addition, the **INTRANAV.IO** (RTLS IoT platform) can be coupled to your opening systems to open, adjust or convert doors, gates and workstation equipment automatically and contact-free.

## How does INTRANAV Social-Distance-Management (SDM) work?

**INTRANAV** provides a digital IoT platform for the Smart Factory, specialized for applications that require precise but cost-effective real-time indoor & outdoor location. This is the case, for example, in

the optimization of production & logistics processes. The system, also known as RTLS (Real-Time Locating System), is mainly used for the automatic identification of production goods, semi-finished products and transports within supply chains. It is one of the most important pieces of the puzzle on the way to the autonomous factory (Smart Factory).



More and more companies are implementing RTLS IoT platforms in their warehouses and production facilities.

Under the keyword "Digital Supply Chain" there are numerous applications for optimizing transport orders, reducing errors and increasing process flexibility, which are made possible with the **INTRANAV.IO** platform.

## How does INTRANAV real-time tracking work and what is UWB?

Real-time position data are generated with specially developed tiny tracking sensors - the so-called UWB-TAGs. UWB stands for Ultra-Wideband and is a novel radio technology which is already used in the latest iPhone and in modern car keys. Intelligent AI algorithms from **INTRANAV** generate very precise location data from these simple radio signals, which can then be used to generate distance information for the safe distance in the form of a virtual protection zone or "geofence" in order to minimize the risks of

infection transmission. This sensor technology is required for active social distance management. Other positioning technologies such as GPS, Bluetooth or WLAN are not sufficient for this, as they provide too inaccurate position information. Compared to WLAN or GPS, the positioning accuracy with **INTRANAV** UWB is up to 150 x more accurate (15m to 10cm). Bluetooth is also too imprecise with 3m accuracy. This positioning accuracy is of utmost importance especially in the current COVID-19 pandemic, where even small safety distance violations can have devastating consequences.

## The danger before the second Covid-19 wave

The RKI confirmed on 28.04.2020 that the number of infections is rising again. The situation must not be underestimated. A careless loosening of measures can lead to an explosive growth of infection figures. Companies can now actively contribute to the protection of their employees by introducing a Social Distance Management solution. **INTRANAV** SDM can be installed and implemented quickly and pragmatically in buildings and industrial halls. The initiative must be taken now to introduce proactive protection measures.



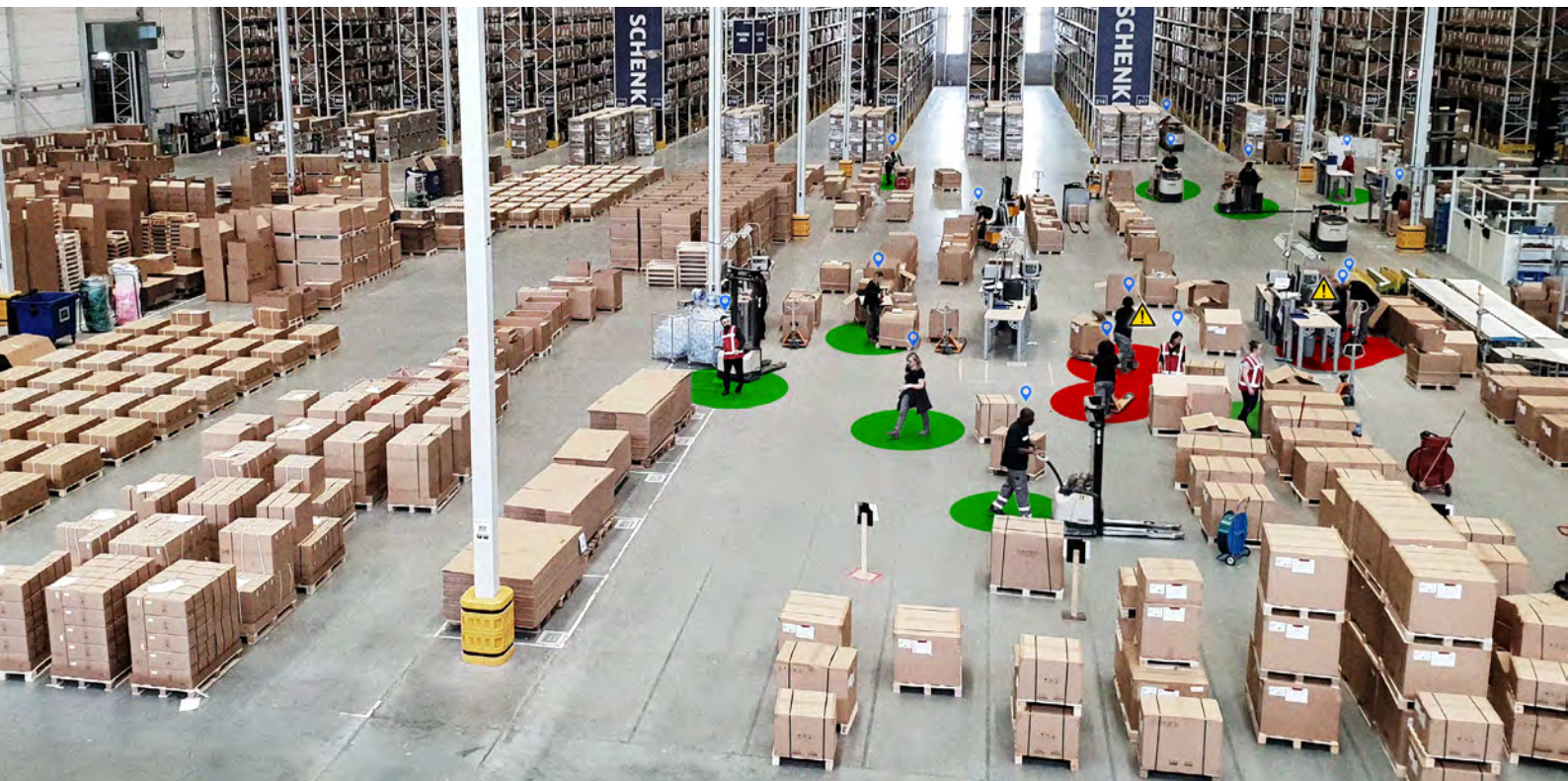
Areas of application for **INTRANAV** SDM are, for example, office buildings, elevator systems, airports, warehouses, production lines, showrooms, innovation centers, supermarkets, hospitals, waiting areas, public buildings, schools, universities, railway areas and bus stops.

## Don't be afraid of surveillance, INTRANAV SDM is data protection compliant!

**INTRANAV** location data is generated anonymously and has no reference to persons or personal data. The software behaves like an encapsulated system and only issues a warning in case of danger. Third parties have no access. Only you as the user decide how and for what purpose your data can be used.

## Who uses INTRANAV active Social-Distance-Management (SDM)?

Some customers already benefit from the free provision of the Social-Distance-Management App. These include customers from the agricultural, engineering & automotive industries



## How quickly can INTRANAV SDM be implemented?

The solution can be implemented immediately within a few days. The following steps are necessary:

- Installation of **INTRANAV** RTLS NODEs in the areas to be monitored. Similar to access points, these are operated either with power or via Power-over-Ethernet (PoE).
- Equip employees with **INTRANAV** UWB-TAG. The tiny battery-operated TAGs are available in the form of a badge or wristband. The SDM system is scalable and supports up to 400,000 employees per site.
- Set up an **INTRANAV.IO** account in the cloud or locally on-premises. The Social Distance Management add-on is available in the integrated RTLS Marketplace.
- After installation, the TAGs are created and the COVID-19 protection radius is set. The Smart-Distance-Geofence immediately de-

fects the immediate objects and warns if the distance is undercut.

- Using an additional app on the smartphone, further alarms can be activated via vibration or warning tones.

## What other benefits for employee safety can be generated immediately with INTRANAV?

In addition to the novel employee protection against infections, warnings of impending collisions with transport vehicles can be generated. Smart tracking can be used to create an intelligent evacuation system that displays the shortest evacuation routes, for example in fire protection situations. For first responders, this smart reporting card can show the exact location of remaining employees who may be in emergency situations.

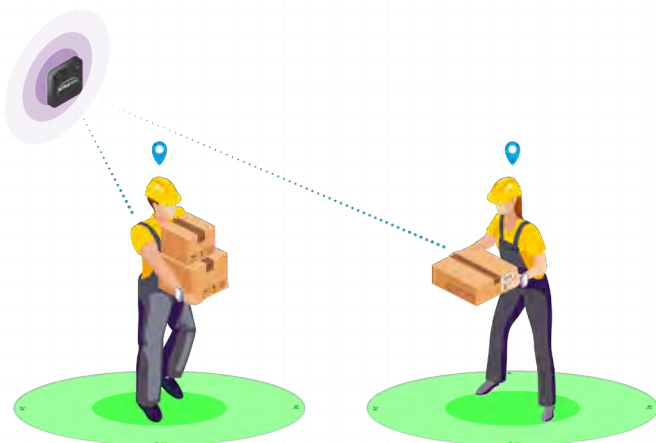
The real-time location information (via RTLS) also makes it possible to trace which areas have been disinfected and cleaned by cleaning staff. This additional traceability supports companies in basic quality & hygiene control.

## The INTRANAV SDM software app is available free of charge to all INTRANAV customers

INTRANAV wants to support all companies and institutions, in particular to protect their employees, and for this reason provides the Social-Distance-Management App for all new and existing customers free of charge. You need the INTRANAV.IO platform suite with one UWB TAG sensor per person. Contact INTRANAV at [info@intranav.com](mailto:info@intranav.com) and request further information.

## CONCLUSION: Back to normality - Employee safety solutions for prompt start of work and ongoing business processes

Real-time location data on the use of employee infection protection is the key to COVID-19 prevention and the sustainable survival of companies. Professional, reliable and data protection compliant distance control through an integrated warning system enables the reduction of new infections as well as efficient COVID-19 management. This allows for a quick re-entry and the start of logistics, production and other company processes in compliance with the prescribed hygiene measures.



Network based



Peer-to-peer network (BLE oder UWB TWR)



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