

How to do strong push-to-talk services the right way

Why industrial sites and
enterprises should adopt
advanced PTT services



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Factories, dockyards, building sites and other large facilities have used VHF and UHF radios for decades to connect team members. Some industrial sites use simple walkie-talkie radios while others have adopted digital trunking systems. Many sites use different technologies, frequencies and devices, which sometimes work together but more often don't. In addition, while today's narrowband radios provide voice communications, they simply can't match the functionality of smartphones.

One key enabler for transformation towards Industry 4.0 is the increasing use of private 4G/5G networks, which form the backbone of smart, data-driven systems and Internet of Things (IoT) connectivity. 5G can be used for critical communications, giving professional users access to strong push-to-talk / push-to-x features such as broadband push-to-talk, multimedia messaging and push-to-video.

A smart push-to-talk / push-to-x communication solution can do everything a traditional radio system can and so much more besides. Thanks to strong push-to-x services, you can:

- Fix things faster
- Stay safe under pressure
- Avoid compromising security
- Keep track of contractors
- Manage supply chains better
- Provide a vital safety net
- Keep the traffic moving
- Maximize flexibility with remote access
- Create tight-knit teams.

How might it work for industrial sites and other enterprises?

Here are nine compelling examples of situations where strong push-to-x services improve operations and make life easier on the factory floor and elsewhere.

1 “Please read me the label”

Fix things faster: Strong push-to-x services can help minimize or eliminate the downtime caused by failed equipment.

Let's say a conveyor belt motor breaks down or a pneumatic cylinder blows a gasket. The resulting downtime looks set to be expensive. Operators aren't usually equipped to deal with incidents like these, so they need to call in maintenance staff and source the right spares and tools – often from a separate warehouse.

Should the operator run around the site trying to locate a maintenance technician? Or maybe they should call her mobile? Both methods work but they take time. Push-to-x services offer a third way.

You click on a push-to-talk button and connect straight to the maintenance team. You can explain what's happening and check every team member's location and availability. You can then assign the nearest available technician to fix the fault.

This is already possible using Tactilon Agnet® 500 from Airbus.

Now let's imagine an even better scenario. What if the motor or the pneumatic cylinder were intelligent and directly connected to the maintenance team? They could be “team members” and call for maintenance without human intervention. Strong push-to-x services make this possibility a reality.

This still leaves the issue of finding the right spare parts.

Today maintenance technicians typically locate the spares and double-check with operators by reading the label or serial number over the radio. Instead of battling to be heard over any background noise, a strong push-to-x solution lets you share a picture of the label. You can send images of the broken parts or even a video demonstrating the malfunction. This ensures the maintenance technician arrives with everything they need to fix the problem.

2 “What was that bang?”

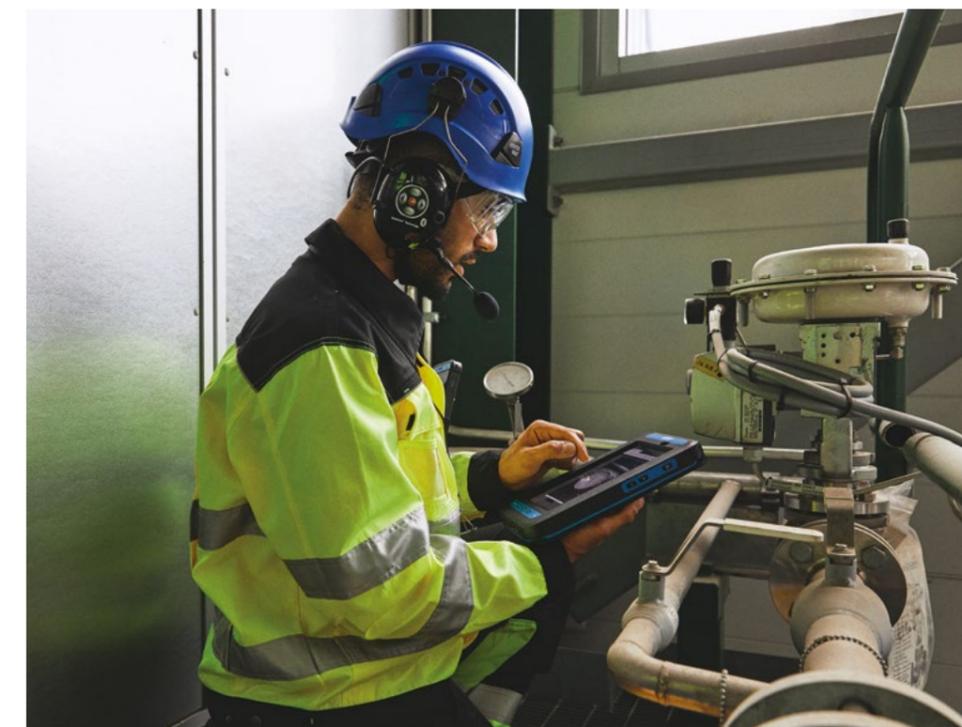
Stay safe under pressure: Sometimes things start with a weird reading on a control room display. Seconds later, steam, gas, smoke or toxic chemicals start escaping from a pipe, engine, process reactor, or distillation tower. From that moment on, time is critical. Any anomaly that threatens the safety of personnel and the environment calls for quick and accurate actions. The right instructions can save lives.

Most industrial sites are well prepared with alerting systems such as sirens and Public Announcement systems. Evacuation processes, routes and stations have been defined and people are trained to evacuate.

Even so, it can be difficult to provide any additional instructions or advice in noisy or chaotic situations, yet additional information may be crucial. For example, if toxic gas is drifting around, you may need to tell people that some evacuation routes cannot be used.

Adopt strong push-to-talk / push-to-x services on Tactilon Agnet 500, and you have an excellent solution for distributing such information to all personnel. You can reach everyone simultaneously in seconds through a single message to an “emergency

group” that includes everyone on site. Tactilon Agnet 500 won't replace sirens and alerting systems, but it provides extra capabilities such as tracking, which enables you to see how many people are still within the danger zone.



3 “Send a message”

Don't compromise on security: Popular instant messaging apps in smartphones offer a handy way to send a photo, map or file when your professional radio can't do it, but are you compromising your security?

All professionals should think carefully about which tools they use to share information, but if you're dealing with sensitive goods such as alcohol, tobacco, precious metals, prescription drugs, ammunition, explosives or weapons, you really need to think twice. The same goes for sensitive information such as personal data, health records or financial data.

What you need is a professional push-to-x app that is secure and easy to use. Choose an app that encrypts all your messages. Check that the server handling the traffic is securely located. And that the server can be isolated from the internet if needed to meet your security requirements.

Tactilon Agnet 500 lets you share information securely with your team. All messages are encrypted and - if necessary - the server can be sited in your premises. It works wherever an IP connection is available, enabling you to use your mobile phone, tablet or PC to send and receive

messages. In Tactilon Agnet 500 you can see all your conversations, whichever devices you sign into.

If something goes wrong, it may be necessary to reconstruct the chain of events. Tactilon Agnet 500 can be configured to keep a log of messages and locations for audit purposes. The log entries can only be viewed by administrators. This helps you to reconstruct communications afterwards and provides valuable lessons for improving processes and responses in future.

4 “The invasion of maintenance contractors”

Keep track of contractors: Every year hundreds of maintenance personnel from external companies come through the gates of a typical large industrial site. Many of them are unfamiliar with the host organization and must be trained in basic security and safety procedures.

Some of them bring their own communication devices, most of which will be incompatible with each other and with traditional on-site communication systems. They may use different standards, modulation or frequencies, for instance. Sometimes communication devices use different technologies but run on the same frequency you are using, causing interference.

In addition, the odds are that you don't have an efficient way to keep track of everyone, and that's a big concern if you're in charge of safety and security, as well as reducing overall management efficiency.

It usually doesn't make sense to expand the in-house system to provide radios for all these extra

people, but nearly all of them will arrive on site carrying a smartphone, so they could use their own devices combined with Tactilon Agnet 500.

Workers can download the app and start using it right away, enabling you to distribute information and instructions securely. Define general and specific talk groups and appoint your own supervisor for each group to stay in control. The supervisor can inform everyone about scheduled power or water shutdowns in certain parts of the site, for example, or provide general information such as access gate restrictions or closure times.

It's also possible to track people working on site. You can add geo-fencing and monitor that the maintenance workers stay within permitted areas. In an emergency, Tactilon Agnet 500 can show how many people are on site and where.



5 “Where is my delivery?”

Manage supply chains better: Was your production ever held up when materials or parts failed to turn up?

Many companies today operate with very limited stocks on site and rely on their supply chains to deliver parts in time. This creates increased dependency between companies and calls for tighter integration between all the links in the supply chain in order to address any hold-ups quickly.

Tactilon Agnet 500 provides you with instant access to the companies making your vital deliveries. Form

a talk group team by including members from the manufacturer, logistics and forwarding agent and your people. This way, the team can coordinate efficiently to solve any problems.

You can also improve security by tracking delivery trucks and receiving alerts if they divert from their intended route. Logistics companies handling special transports, such as oversized cargo, can use Tactilon Agnet 500 to communicate between the truck and its escort vehicles. You can also use it to exchange documents securely, such as a bill of freight or customs declaration.

In fact, any operation requiring good coordination and a fast response from multiple companies, or from a distributed team across multiple sites, can improve communications with Tactilon Agnet 500. You might be a maintenance contractor, equipment manufacturer or a spares distributor, for example, or anyone providing important services to a site. Tactilon Agnet 500 is a hotline connecting you to everyone you need at the touch of a button.

6 “I'll just close my eyes for a second...”

Provide a vital safety net: A worker pauses as he walks alone near the coke oven. He feels a little strange so he closes his eyes for a few seconds... A moment later, he collapses on the stairs. Many industrial processes produce hazardous gases or other harmful chemicals. The culprit in our coke oven example is likely to be carbon monoxide.

While many advances have been made in personnel safety, industrial environments still pose a risk to employees. Chemical hazards are joined by moving machinery, heat sources and slip and trip hazards.



Tactilon Agnet 500 enables cooperation and instant communication between several companies using specific talk groups. Only the defined members of the group can participate in the group calls or messaging. Instead of making several one-to-one phone calls, the whole group will hear or receive a message with a single click of the push-to-talk button.

Those working alone are especially vulnerable, particularly if they become incapacitated before calling for help.

Tactilon Agnet 500 provides additional occupational safety capabilities. The Lifeguard feature is designed to help workers who are on their own. This function monitors the user's movements and generates alerts when certain criteria are met – for example, if the user remains stationary for too long. It first alerts the user, asking if he is okay. If there is no response, it automatically alerts a pre-defined recipient, such as the control room.



7 “Coming through!”

Keep the traffic moving: Industrial sites, mines, ports, logistics centers, construction sites and so on are all busy places. There is inbound and outbound traffic, internal movements between different stages of processing, through multiple entry and exit points and loading bays. Access roads may also have narrow “choke points”, which further complicate the logistics.

For example, huge rigid haulers are traveling up and down an access road along the benches in an open pit mine. Some ramps can only accommodate one hauler at a time and there are some narrow passages

along the way from the pit to the grinding and concentrator station. A broken-down hauler is parked on the bench waiting for repair, partially blocking the way.

Keeping the traffic running smoothly is complicated if you want to minimize any non-productive waiting time. Communicating with the drivers is essential.

Tactilon Agnet 500 enables you to coordinate all this traffic. You can sign up external transport companies and their regular drivers and give them access to the groups used for logistics and traffic coordination

within the site. They can contact the coordinator while they’re still miles away and access the latest instructions for their approach and entry. Your coordinator can also follow their progress on a map and get an alert if they are deviating from the expected route.

The situation on site can only be optimized when everyone uses the same communication system. Tactilon Agnet 500 provides the right tools, including voice and data messages, and it shows where everyone is on a map so you get the full picture.

8 “Coverage! Unlimited coverage!”

Maximize flexibility with remote access: Imagine if team members could be part of the same talk group wherever they are, unconstrained by geographical limitations. Supervisors would have no geographical ties either, so they can work remotely.

More and more of these Industry 4.0 concepts are coming true, and Tactilon Agnet 500 is one of the important enablers.

Tactilon Agnet 500 delivers group communications that work around

the world. The team can access the same system from anywhere using an IP connection. What’s more, Tactilon Agnet 500 even allows you to access your current radio network from the other side of the world, thanks to gateways to traditional radio systems.

9 “Crane to ground!”

Create tight-knit teams: Crane operators typically require a dedicated channel or talk group for each crane. Traditional open channel UHF/VHF radios cannot guarantee this vital safety measure. Even if each crane-and-ground crew team is supposed to be the only users on their frequency, outsiders can accidentally cause confusion by straying onto the same channel. This issue is exacerbated because talk group frequencies are usually identified only by a channel number, rather than by a proper name.

To minimize the risk of misunderstandings, there should be no access to each group except for the crane driver and the dedicated

ground crew. This ensures that the crane operator only receives commands and instructions from his own team.

Using Tactilon Agnet 500, the talk group memberships are defined in the system and outsiders cannot gain access. You can also create talk groups with meaningful names, such as “Coker Crane ” or “Gantry Crane 2”, so users can identify them easily.

With better control over access rights, Tactilon Agnet 500 helps reduce the risk of mistakes and thus improves personal safety. At the same time, it’s as simple to use as a two-way radio yet it provides a full duplex connection.



What’s your next move?

Would you like Tactilon Agnet 500 to help solve your communication problems?

If you want to have confidence that a smooth move from analogue or narrowband communications to broadband, you can opt to run your existing system in tandem with Tactilon Agnet 500 and enjoy the best of both worlds.

Here’s how you can get started:

Learn more about Tactilon Agnet 500

<https://www.securelandcommunications.com/tactilon-agnet-500>

Join a free online demo

<https://www.securelandcommunications.com/sign-up-for-a-free-demo-of-tactilon-agnet-500>

Request a free trial

<https://www.securelandcommunications.com/tactilon-agnet-500#subscription>

Talk to sales

<https://www.securelandcommunications.com/contact-us>



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Move smoothly from analogue or narrowband to broadband communications: choose Tactilon Agnet 500 and enjoy the best of both worlds.