Niels Korsgaard,
head of the lab and a chief surgeon

- **Maximum transport time is just 21 seconds**
- **Focus our energy on our analytical work instead**
- **Results are available in less than an hour**
- **More efficient transport of blood samples**
- **Integration to new analytic equipment**

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Delivering and processing blood samples as soon as they're taken

While plans were being laid for the biochemical lab at the Hospital of Southwest Jutland to move from the main hospital building to the other side of the road, the lab head expressed a desire for a safe quick way to transport blood samples to the lab. The hospital in Esbjerg, Denmark, agreed to install a Tempus600 pipeline system from Timedico to connect its intensive care unit and other departments directly to the lab, via a tunnel that runs under the road. The system transports the samples at 10 m/s, depositing them on a conveyor belt in the laboratory's new automated analytic facility.

"Since we were moving across the road, I wanted to make the transport of blood samples more efficient", says Niels Korsgaard, head of the lab and a chief surgeon at the hospital. "And I didn't want people rushing around with them, so we needed to find another way to solve the problem."

Korsgaard had seen a Tempus600 in action at the Odense University Hospital. There, the system's dedicated pipeline led from a sending station in the outpatient clinic to the lab, where the samples ended up in a box that the lab technicians would then empty and register.

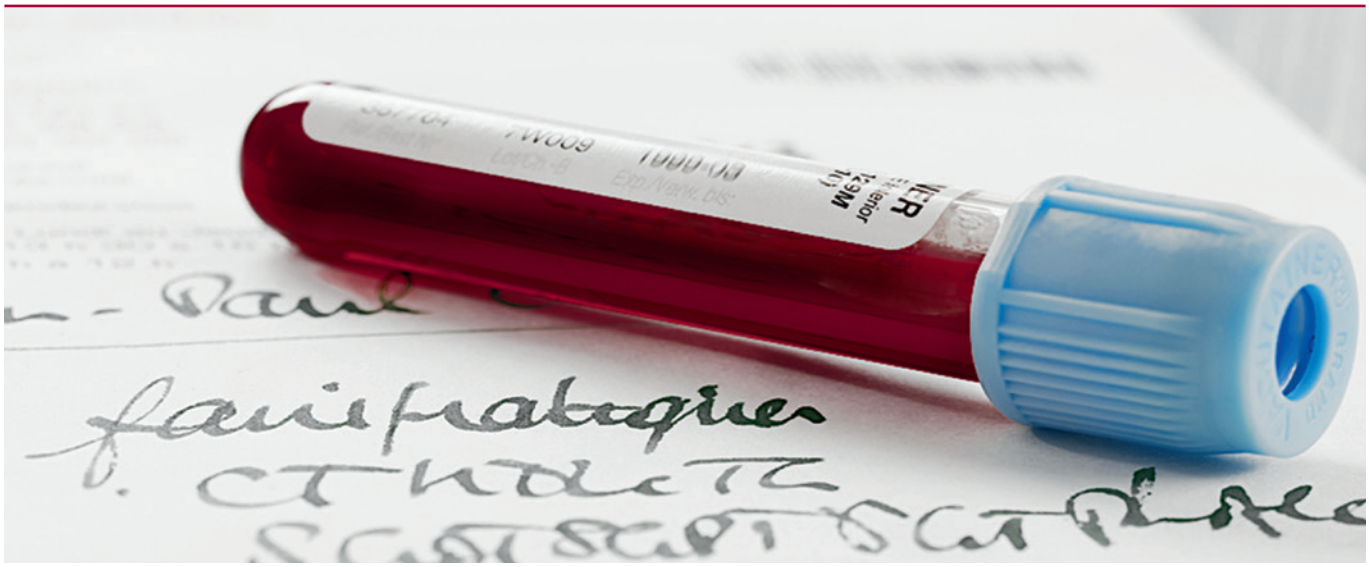
> "A desire for a safe quick way to transport blood samples to the lab.

Tempus600 connected directly to Abbott

In conjunction with the move, Korsgaard was planning to install one of Europe's most modern analytic facilities, developed by Abbott – so he wanted to see if it would be possible for the samples from the pipeline to go directly on the automated analysis belt. In other words, he wanted to thoroughly integrate the Tempus600 with the new analytic equipment.

"During a meeting with Abbott and Timedico, I asked if it were possible – so that between the taking of the sample and the result, the samples wouldn't be touched by human hands. The answer was a resounding Yes, and so we went to work."

Today, the Hospital of Southwest Jutland has eight Tempus600 systems connecting the biochemistry lab with different floors and departments, including the ICU. The maximum transport time is just 21 seconds – from when the sample is placed in a sending station to when the lab receives it for automatic processing.



All samples sent immediately

"Each department sends samples as soon as it has a rack of seven tubes ready", explains Korsgaard. "That enables us to live up to one of our lean principles: once a sample has been taken, it should be processed right away. Before, our analysts used to make a round, collecting samples and dividing them up in categories such as critical, rush and so on.

"The Tempus600 blows the samples straight into the bulk loader – and then through the pipeline onto the conveyor belt in the lab, where the new equipment automatically centrifuges and analyse them. Which means that we can focus our energy on our analytical work instead."

Quick results offer many benefits

The lightning-fast transport to the lab saves countless crucial minutes, while the modern analytical equipment ensures that results are available in less than an hour, where before it took two to four. The difference is especially important for the casualty ward, where doctors must make many rapid decisions about how to route patients through the hospital system.

> "Between the taking of the sample and the result, the samples wouldn't be touched by human hands.

"It means that our patients can get a quick answer about whether they are sick or not – and whether they should be remain in the hospital or be sent home", says Korsgaard. "It also lets us initiate proper treatment more quickly. And that affects the number of bed-days and thus the hospital's efficiency and cost-effectiveness."

Korsgaard looks forward to introducing handheld PDAs to all the departments soon for scanning blood tests and barcodes. When that happens, the hospital will be able to exploit the newly automated lab to the full.