

## CASE STUDY: ATHLETE TESTING

**Solution:** Anybus Wireless Bridge II  
**Country:** Sweden  
**Company:** 1080 Motion  
**Summary:** Anybus Wireless Bridge™ enables data from 1080 Motion's neuromuscular testing machines to be transferred wirelessly to a computer for immediate display.



### The effects

- ✓ Wireless communication between the machine and receiving computer.
- ✓ More flexibility for coaches to move around with a computer/tablet.
- ✓ Robust and reliable communication.



*"The Anybus Wireless Bridge works as a cable replacement giving us a sturdy and reliable wireless connection via Bluetooth."*

**Christoffer Bergkvist**  
CTO, 1080 Motion

## Anybus wireless technology used for athlete testing

The 1080 Quantum and 1080 Sprint are state-of-the-art neuromuscular testing machines which allow professional athletes to test power, speed and physical force. The data recorded by the testing machine is wirelessly transferred to a computer or tablet via Bluetooth where it can be displayed in the 1080 web application. The wireless data transfer is made using the Anybus Wireless Bridge from HMS Industrial Networks.

Modern athletics is becoming more and more scientific. As athletes become increasingly professional, there is also an increasing need for keeping track of performance and training development.

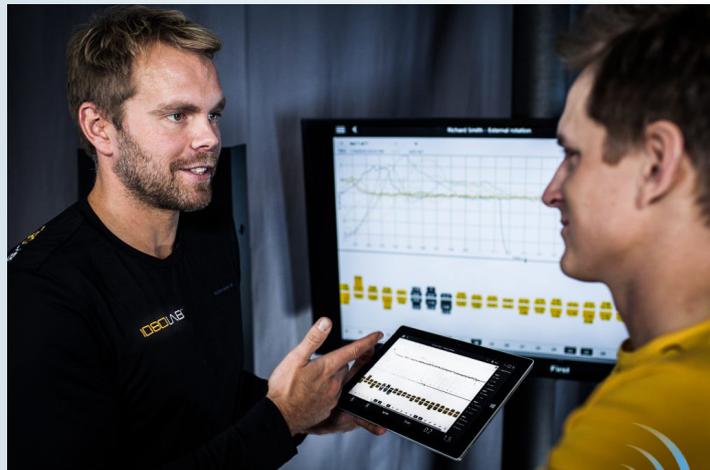
Swedish pioneers 1080 Motion makes electronic training machines that allow athletes to measure their development when it comes to power, speed and force. Their groundbreaking products 1080 Quantum and 1080 Sprint are a neuromuscular testing machines where the athlete pulls wires in different ways to measure their physical performance.

### Hi-tech machine needed hi-tech communication

The success of 1080 Motion is a unique mix of expertise in sports physiology and advanced control systems. The control system in the machines communicate with a computer via TCP/IP, where the data is gathered and presented in 1080 Motion's own web application.

This way, coaches can get on-the-fly graphs and statistics on the athlete's performance and monitor development over time.

But 1080 Motion needed to find a way to get the information from the testing machine to the computer without cumbersome cables and wires. That is when they came across the Anybus Wireless Bridge from HMS.



**Wired testing, wireless data transfer**  
 As the athletes run or pull the wire in 1080 Motion's machines, the data is wirelessly transferred to a computer or tablet where results can be displayed immediately.



## How it works

The 1080 Quantum and 1080 Sprint both communicate via TCP/IP. They are connected to the Anybus Wireless Bridge via an Ethernet cable with an M12 connector. The Wireless Bridge sends data wirelessly to a computer which processes and displays the results.

The Anybus Wireless Bridge can use both WLAN and Bluetooth to communicate wirelessly. 1080 Motion chose to use Bluetooth as their means of wireless communication. Bluetooth is a very solid and reliable way for wireless communication as it has a narrow band frequency spectrum. Functionality such as Adaptive Frequency Hopping (AFH) also helps to make Bluetooth less sensitive to disturbances.

Unlike wireless solutions for consumer use, the Anybus Wireless Bridge is designed for harsh industrial environments with lots of noise and disturbances which makes the wireless communication very reliable.

## Ready-made solution

"We really liked the fact that the Anybus Wireless Bridge was a ready-made wireless solution," says Christoffer Bergkvist, CTO at 1080 Motion. "We don't need to bother with building our own wireless solution from different components, but can rather just connect an Anybus Wireless Bridge to our machine and it communicates with the receiving computer. So in our case, the Anybus Wireless Bridge works as a cable replacement giving us a sturdy and reliable wireless connection via Bluetooth."

1080 Motion technology is already in use at many high-profile sports teams such as LA Angels Baseball, Malmö Redhawks Hockey, Everton Football Club and a number of universities in the U.S. and Sweden. And with a robust and reliable wireless solution in place, 1080 Motion has the possibility to keep expanding their offering.

## Learn more on [www.anybus.com](http://www.anybus.com) or [www.1080motion.com](http://www.1080motion.com)



Anybus Wireless Bridge II enables you create a robust wireless connection between two points in an industrial Ethernet network. This second generation of the proven and trusted product can communicate via both Bluetooth and WLAN and is ideal for communication through hazardous areas or hard-to-reach locations where cables are not desirable.