# Local server or straight into the cloud: Which solution meets my needs?

Despite all the benefits of cloud solutions, restrictive guidelines and a still not widely available Internet infrastructure may require a local server solution. Therefore, the product range was extended by the coatmaster Local-Server as an alternative to the coatmaster Cloud. On the occasion of its market launch this article shall give a short overview of the advantages of the coatmaster Cloud and the Local-Server.

The coatmaster Flex is the first cloud-based handheld measuring device and is thus a technological milestone. It is used for non-contact coating thickness measurement of powder and wet coatings before curing or drying. The underlying measuring principle is based on the heating of the coating by a light pulse and the contactless measurement of the resulting temperature dynamics on the surface. Computationally intensive algorithms are required to determine the coating thickness from the measured data, which is incompatible with the concept of a handheld device. coatmaster has therefore decided to take a radical step and outsourced the processing of the measurement data and the database to the cloud. This results several further advantages, which are described below.

Recently, the digitization of industry and business - not least promoted by the Corona crisis - has made great advances. For example, providers of cloud solutions such as Amazon or Microsoft, SAP or Salesforce, Zoom or Service Now, are among the remaining sectors of the economy that are still growing. In cloud computing, customers use IT services such as software, storage space or computing power via data networks. This principle is irreplaceable in the modernization of IT. Contact restrictions and cost pressure now provide further arguments.

Despite all the benefits of cloud solutions, restrictive guidelines and a still not widely available Internet infrastructure may require a local server solution. Therefore the product range was extended by the coatmaster Local-Server as an alternative to the coatmaster Cloud. On the occasion of its market launch this article shall give a short overview of the advantages of the coatmaster Cloud and the Local-Server.

## coatmaster Cloud

The coatmaster Flex handheld device records temperature curves and displays coating thicknesses. The temperature curves are transmitted via a WiFi connection either via a 4G router or via the company's own WiFi network. coatmaster hosts several servers worldwide to guarantee a fast data connection. In the servers several hundred computing kernels work simultaneously on the solution of the computationally intensive algorithms. For the archiving of more than 10 billion measuring points, more than 100TB data volume per server is currently available. The determined coating thickness is finally sent back to the measuring device for display to the

operator. The whole process typically takes less than 500ms.

Figure 1 shows the communication channels of the coatmaster cloud with the handheld, a client and peripherals like a coating line.
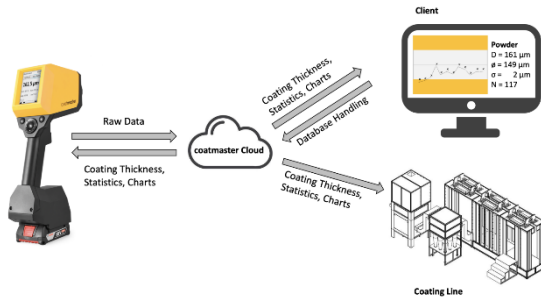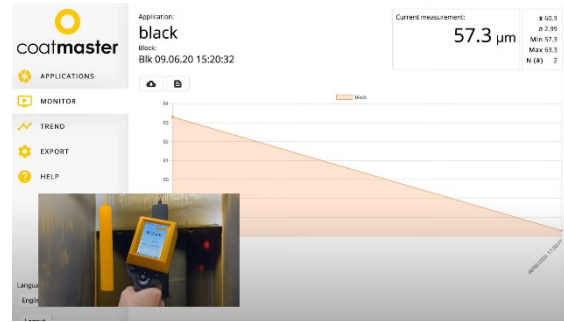


*Figure 1: Communication between coatmaster Flex and coatmaster Cloud, and peripherals.*

Via an Internet-capable client (e.g. PC, client or smartphone) recorded data can be displayed, visualized and statistically evaluated. The functional scope of the cloud is continuously expanded without the need for a software update. Upcoming updates include the creation of PDF reports on applications and blocks, editing, deleting and copying of applications, blocks and individual measurements.



*Video 1: Live visualization of coating thicknesses with the coatmaster Cloud.*
*https://youtu.be/0AagSHH_kFE*

The archiving of data in the coatmaster Cloud is maintenance free, the lifetime of the cloud storage is practically unlimited. Furthermore, the coatmaster Cloud offers a maximum of data security against unauthorised access. When operating several measurement devices in a corporation, applications can be transferred from one device to a second.

### coatmaster Local-Server

With the coatmaster Local-Server, available since the beginning of June, it is now possible to operate coatmaster Flex without cloud storage. For this purpose, a WiFi connection between coatmaster Flex and the local server is established as shown in figure 2. The data evaluation and storage are done on the coatmaster Local-Server. Coating thicknesses are displayed and visualized on the measuring device itself.
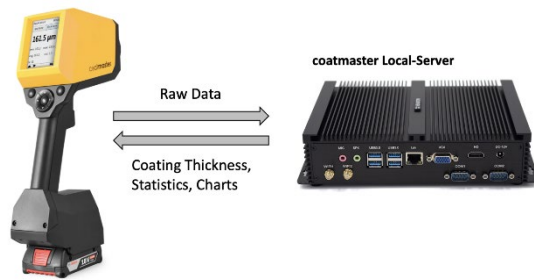
*Figure 2: Communication between coatmaster Flex and coatmaster Local-Server*

The coatmaster Local-Server is based on a high-performance multi-core computer, which is able to solve the computationally intensive algorithms. The innovative housing concept allows passive cooling and maintenance-free operation even with particle polluted ambient air. The coatmaster Local-Server is especially suitable for customers who prefer a local storage of measurement data and don't want to depend on the internet.

The choice between coatmaster Cloud and coatmaster Local-Server depends on the customer's requirements and must be decided on an individual basis.

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