



3DIX

CASE STUDY

Scaling Production

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AUTHENTISE

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Authentise's [3DiAx Platform](#) helps companies move their additive manufacturing operations from lab to production scale. [3DiAx modules](#) enable many of the standard tasks in an additive manufacturing workflow to be automated and integrated. This case study describes how a large corporate customer is preparing their IT infrastructure for the new demands of scaled additive manufacturing (AM).

Client

US Industrial Machinery company with ~\$50bn revenue.

Need

The client has developed 30+ scalable applications of AM in their manufacturing process. Based on this success, management is eager to deploy the technology at the core of the company. The AM lab is now challenging the IT department to develop robust infrastructure to:

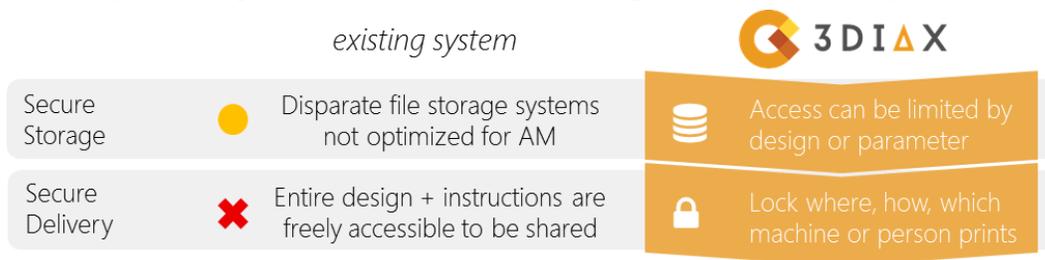
- Control and track who accesses AM related files, where and how they can be printed to **protect the intellectual property and the integrity of parts.**
- Seamlessly analyse, heal and generate tool paths for parts to **reduce time spent preparing parts for print.**
- Serialise parts and monitor production to **ensure traceable quality.**

3DiAx Solution

Given the client's ambition to deploy 3DiAx at the core of its IT architecture, 3DiAx is being deployed on premise and delivered only as API without interfaces. Authentise is working with the client to create custom modules and support integration for existing tools and IT systems.

Control AM Access and Printing

An arising concern for the corporation was the integrity and intellectual property of its prints. 3DiAx addresses this by providing secure, access controlled storage and secure delivery into the device.



The solution ensures that all build files are associated, version controlled and can be shared as a whole or discreetly, down to a single parameter granularity. This **enhances collaboration while maintaining security.** In addition, the Secure Delivery module ensures that the protection carries on to the machine, **restricting the manufacture** to devices, locations, printers, persons or quantity specified.

Seamless Processing of Parts

A lot of time is wasted by highly skilled engineers executing repetitive tasks. 3Dix automates these tasks in sequence for all incoming files.

existing system		3DIX
File Analysis	● Manual detection of size, polygon count and other stats	📍 Automatically logged on upload, can be searched
Healing	● File healing, if required, is manual	🩹 95% of designs healed automatically
Rendering	● Renders generated manually, rarely bc of effort	📷 Every file generates multiple renders
Geometric Search	✘ Falsely marked files are easily lost	🔍 Designs uploaded are auto-matched to parents
FDM Design Enhancement*	✘ Manually select tip size by process of trial and error	⚙️ Auto-picks tool and dials in to prevent air gaps

*custom tool currently under development

The automated and integrated processing of files **saves operator time** that would otherwise be spent manually analysing, healing or rendering the files. The system **protects the integrity** of the storage by identifying similar files and associating them to **prevent unnecessary repetition** of work. In some cases, it can eliminate operator time and **produce more reliable prints**, by automating tool path preparation. The easy availability of renders and file analysis makes **work more precise and organised**.

Serialise and Monitor Production

Traceability and quality assurance are key concerns, especially as the client outsources and eventually distributes production. 3Dix's monitoring tools with automated serialisation helps address this.

Data Learning	✘ No tracking of utilization rate & other printer related metrics	📶 Automated tracking of key metrics + reporting
Serialisation	● Serial numbers in post-process or manual in CAD	🔒 Defines location for serial number then automates
In Process Monitoring	✘ Operator needs to watch production to catch any failure	👁️ Uses computer vision to catch (& correct) failure

Automated serialisation **saves time** and ties all production data such as location in print bed, printer feedback, design edits, to the physical device, allowing for a **perfect digital record**. Automating data collection of those steps, for example through the Data Learning module, creates a **more complete data set in less time**. The computer vision based in-process monitoring contributes to this and also enables **material and machine saving** by detecting failed prints early.