



FORTIS Production Line Transfer Project

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Project Aim:

The aim is to transfer a singular FORTiS encoders production line from Renishaw’s ‘New Mills’ site in Gloucester, to the ‘Miskin’ site in South Wales by **May 15th, 2023**.

The aim was for this to be carried out without halting the production of FORTiS at New Mills. To accomplish this task, the duplication of production rigs was required which would result in both sites having the ability to run production in parallel.

Why is FORTiS transferring?

- Increases FORTiS production capacities by **235%**.
- Allows the production line to be **expanded and optimised**.
- Miskin is a **well-located** factory with better transport links to despatch products on a larger scale from.
- Easier to **recruit staff** in the urban areas surrounding Miskin, in comparison to the rural areas surrounding the New Mills site.
- Frees up floorspace within the new products development area and **allows new products to come through**.

Renishaw Miskin Site:

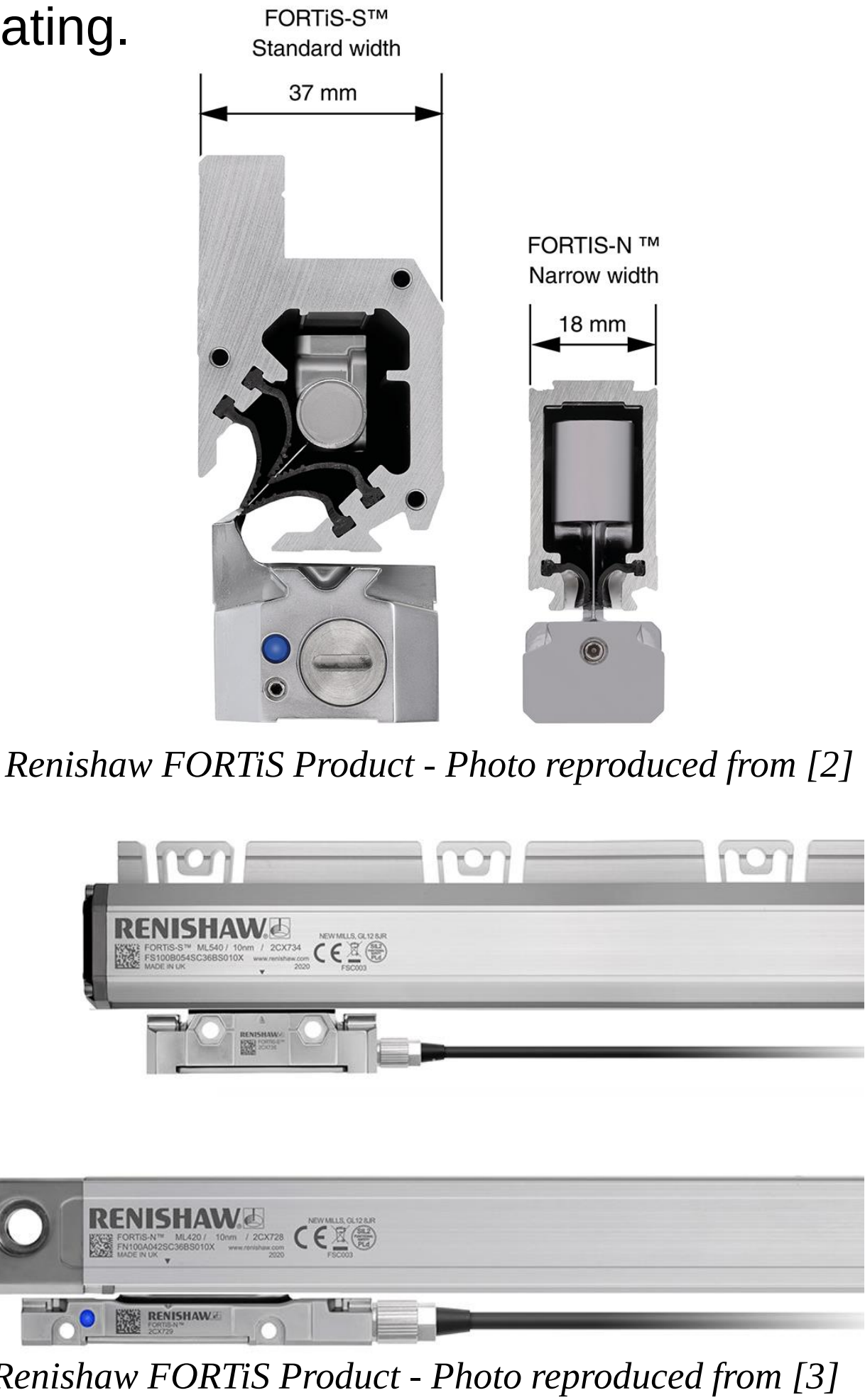
- The Miskin site in South Wales spans across an impressive 193 acres.
- Miskin is Renishaw’s main manufacturing facility.
- 50 million pounds has recently been invested into the Miskin plant to expand its production facilities by 200% before 2026.



Renishaw Miskin Site - Photo reproduced from [1]

Product Knowledge:

An encoder is an electromechanical device that is fitted to a machines axes to convert linear or rotary motion into electrical signals that provide information on position, speed, and direction to machines such as CNC’s. This allows the machine to move with extreme accuracy. FORTiS is Renishaw’s first fully enclosed encoder, which helps protect it against liquids and solid debris ingress such as coolant and swarf. It has a IP64 rating.



Renishaw FORTiS Product - Photo reproduced from [3]

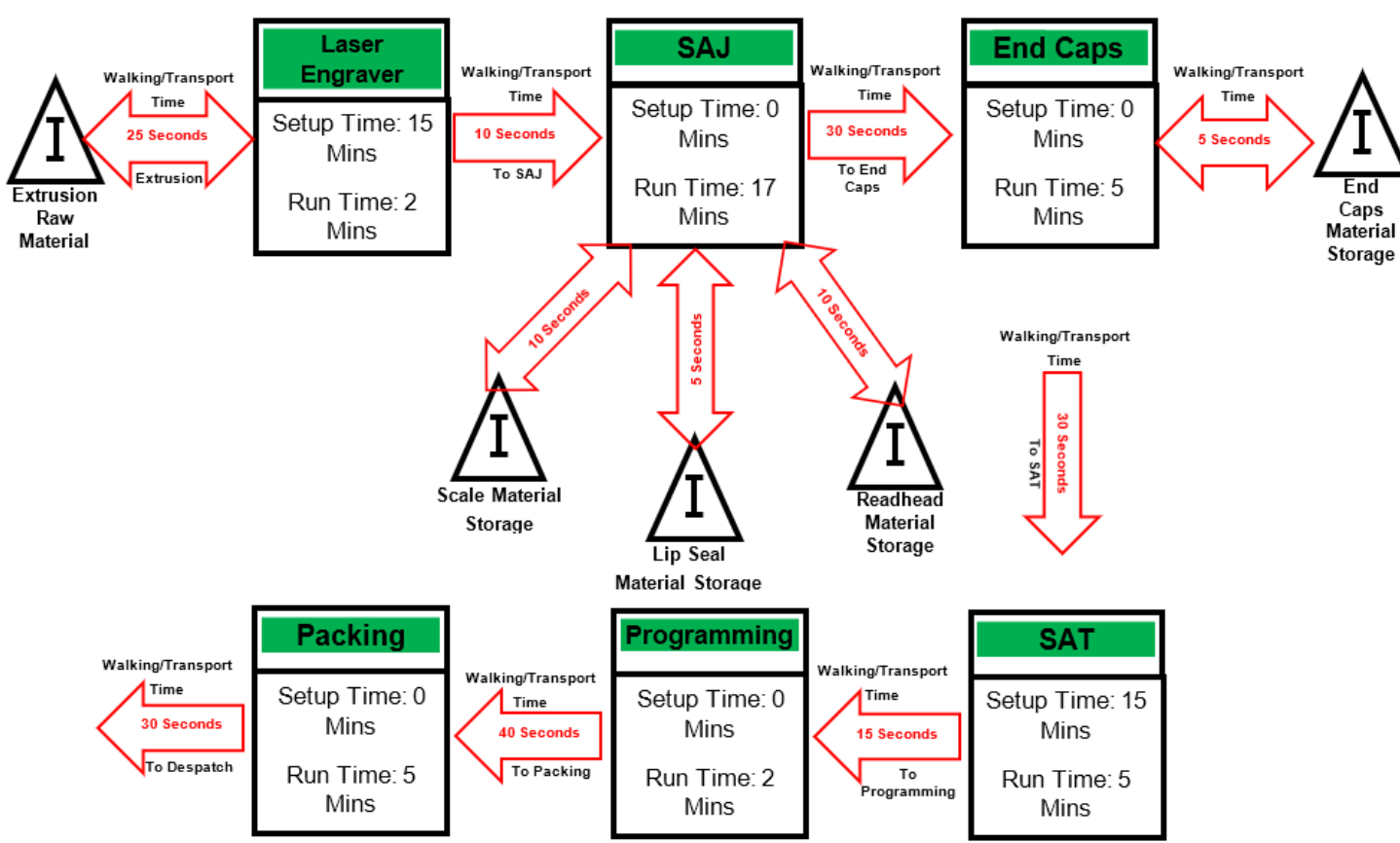
Project Setbacks:

- Supply issues such as long lead times occurred when ordering racking and benches.
- Commissioning delays due to unforeseen issues with laser alignment and moisture in the incoming factory air occurred.
- Forklift didn’t have a comfortable turning space when delivering SAT which resulted in extra bench moves.

The setbacks did temporarily jeopardize the project completion deadline, however the project was put back on track with some overtime commitments.

Process Optimisation:

The process at New Mills had a large amount of Non-Value Added (NVA) time in it. Therefore a Value Stream Mapping (VSM) activity was carried out to optimise the production lines process flow. The diagram used to carry this out can be seen below:



The table below shows the time savings made from optimising the production line using VSM techniques to remove NVA time:

Original NVA Process Time:	Post Transfer NVA Process Time:	Optimisation Time Saving:
6mins 35	3mins 30	3mins 5

Project Reflection:

The project as a whole went really well. The transfer was completed on time and production were running when they were scheduled to be, despite the small setbacks that occurred. The feedback from production and engineering staff at both the New Mills and Miskin sites were positive, therefore showing that collectively everyone was pleased with the way the project had gone.

References:

- [1] - (Renishaw plc, 2022)
- [2] - (Renishaw plc, 2022)
- [3] - (Renishaw plc, 2022)

<https://www.renishaw.com>