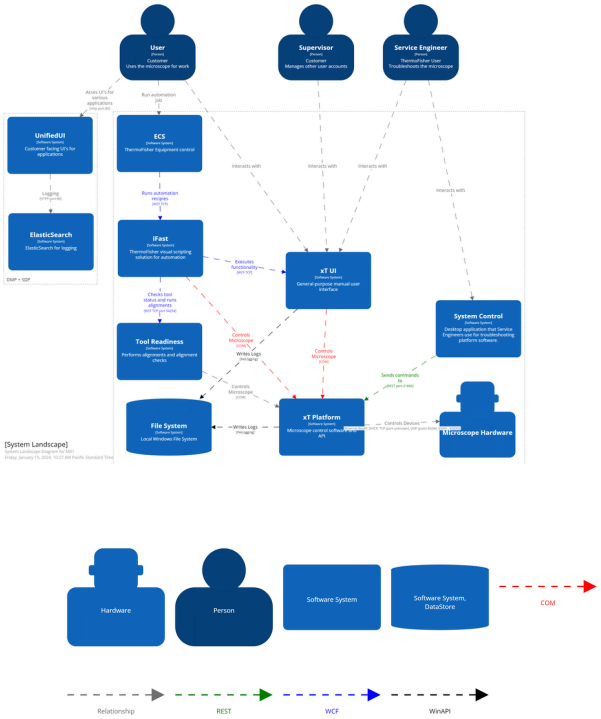
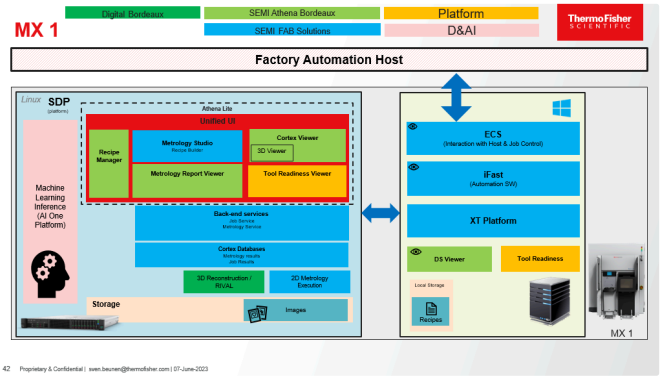
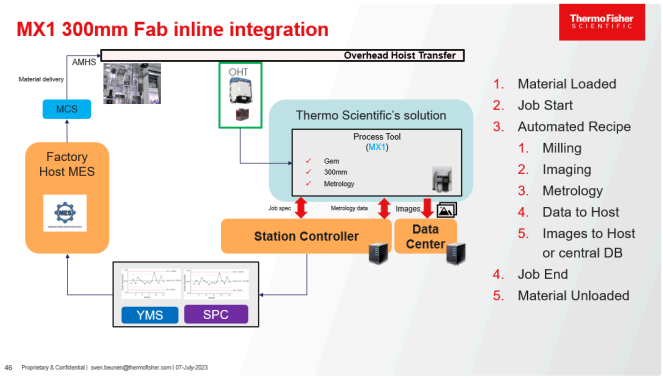
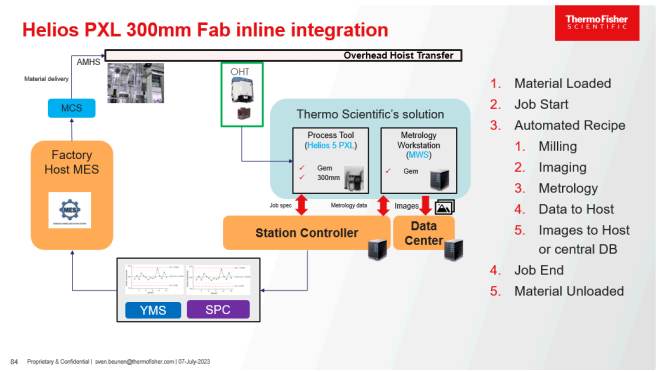
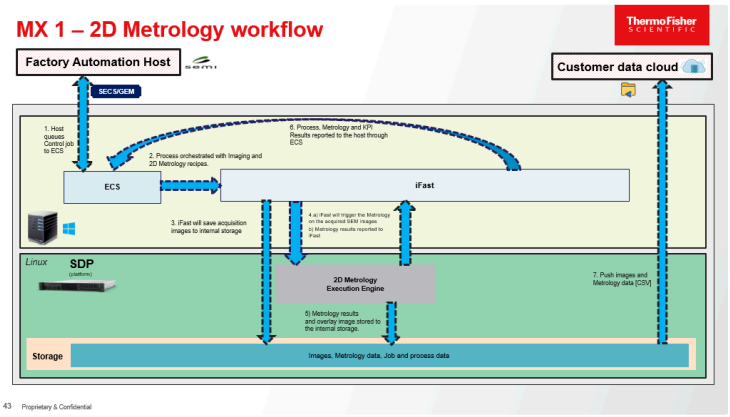
MX - 1 Architecture

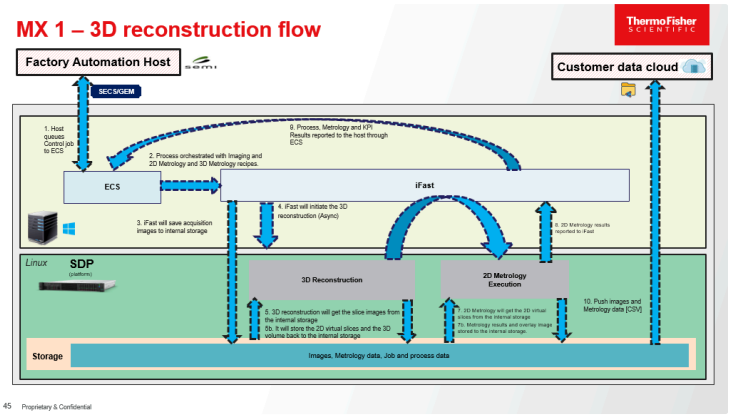
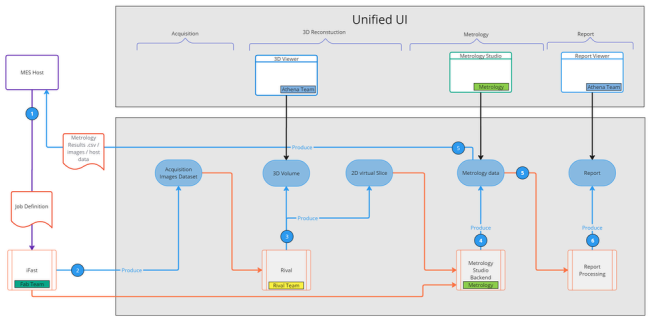
MX - 1

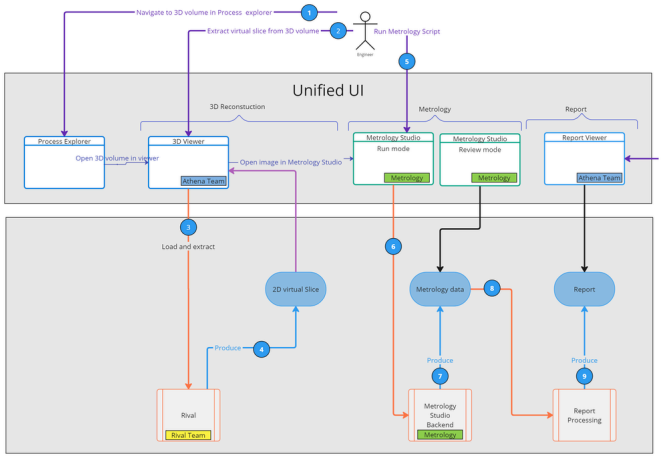
Title	MX - 1
Description	MX - 1 is the next generation PXL. The system will focus simplifying the metrology data flow to improve the robustness and time to data for our customer.
System landscape diagram	
Key to system landscape diagram	1. The MPC applications will stay the same as we have on PXL, no new applications are introduced for this platform. 2. DMP + SDP: This is a newly added computer to enhance the capabilities of the MX1 system. On this system new applications are introduced that are not found on the PXL. More details on these systems can be found in their respective pages. 3.
System Landscape with ownership	

System Overview	The MX1 system will be integrated in the customer FAB system. For this program we are improving the connections and the integration ease of use to simplify the connectivity for our customers. The diagram below show's where our system fits in the customer enviroment.  The major change with regards to PXL is the combination of the Process and Metrology. This simplifies the workflow greatly. See image below as reference of the previous design. 

🧐 Specifications

Usage	MX1 is being designed for 2 major use cases: 1. Diagonal Mill and Inspection 2. Diagonal Slice and view and fully automated 3D reconstruction.
Behavior Diagonal Mill and Inspection	

Behavior 3D reconstruction	
Automated 3D reconstruction flow chart	For the 3D reconstruction there is a fully automated use case, but also a manual use case where the user can extract more virtual slices from the 3D volume and run metrology on it. See the diagrams below for more details. 
Automated 3D reconstruction flow chart	1. The host will send a control job to the MX1 system. The for the 3D workflow, the recipe needs to have a 3D reconstruction activity configured. 2. iFast will acquire the images and store them on the SDP platform. Every image is passed to the RIVAL engine to start pre-processing the acquired images. 3. Once all the images are acquired by ifast RIVAL will generate the 3D volume and store it back on the shared hard drive. It will also generate all the virtual slices as configured and will return to ifast when completed. (This will happens asynchronously so ifast can keep processing.) 4. iFast will call Metrology studio with the list of images so it can start generating the metrology data for all virtual slices. 5. We need to send all the metrology data to the customer host system. We will get this data from the Metrology studio database where this information is stored. 6. We also have a report viewer synced up to this database to view the results in the report viewer as well.

Manual 3D reconstruction flow chart	
Manual 3D reconstruction flow chart	1. The user will navigate to the 3D volume in process explorer.

📐 Additional guidance

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