

MSD EM Global Services

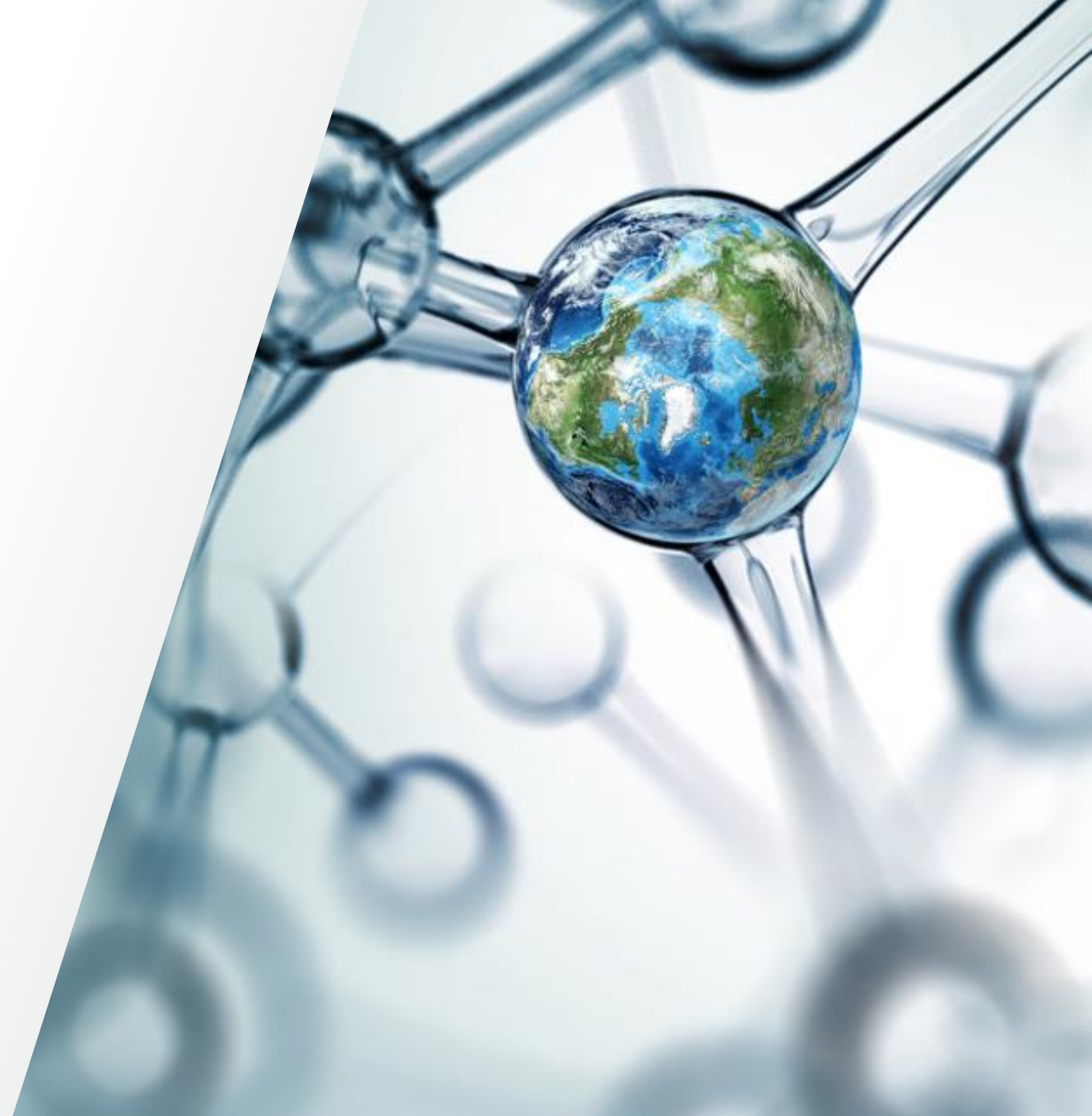
Phillipe SERA

FSM France

Material & Structural Analysis Division

Thermo Fisher Scientific

 The world leader in serving science



Agenda

1 MSD EM Service Org. Overview

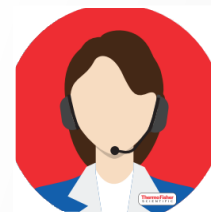
2 France Field Org. and GTS EMEA

3 Innovation & transformation

Service Teams for installation and support

Our developed support infrastructure allows us to be more agile and proactive in how we support your instruments.

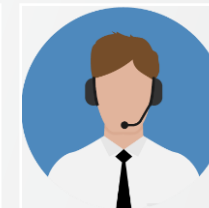
Leveraging data and remote technologies allows us to **expand our service reach**, deliver an **accelerated response**, and **optimize** your system's uptime and performance.



Global Technical Support

Central contact for service enquiries, spare parts and consumables.

Remote Service Engineers



Rapid online response and diagnosis



Field Service Engineers

Onsite maintenance

Applications Specialists



User training, experiment design, and technique support



Customer Support & Success Mgrs

Dedicated technical expert to help with system performance and productivity

Global service team



 Service Centers

20420 EM Install Base

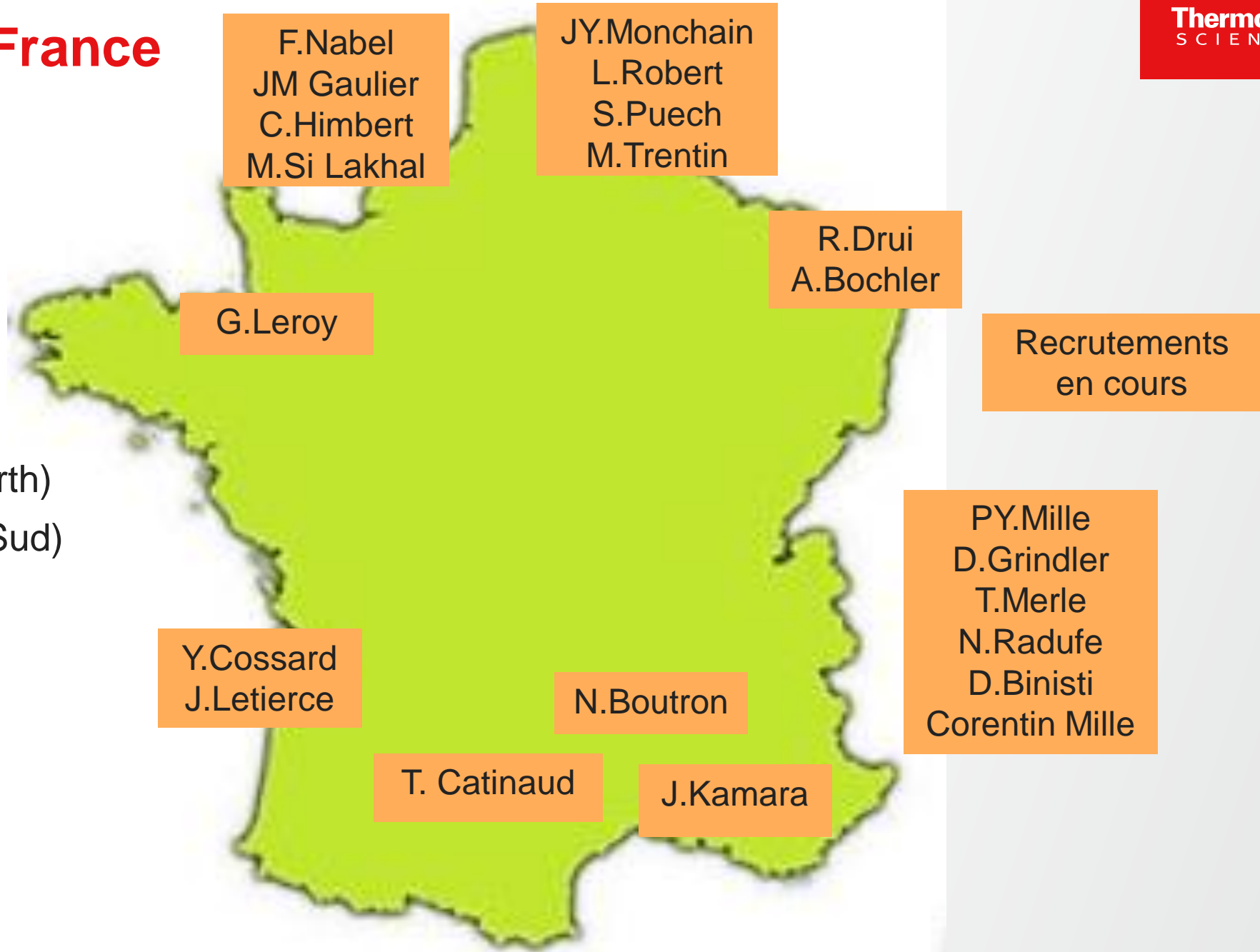
Thermo Fisher Scientific has the largest EM service team in the world comprising **1000+ field engineers** With an average of 10 years experience in Electron Microscopy

- 321** North America
- 210** Europe, Middle East
- 157** China
- 291** Asia, Pacific, Japan

180+ remote service engineers based at strategic service centers

100+ applications specialists based at strategic service centers

Field Service France



- F.Vallée (Sup North)
- F.Adolphe (Sup Sud)

Field Org. & Global Technical Support

- What is GTS :

- GTS supports customers by providing specialized product knowledge resolving complex service issues.
- GTS works closely with our R&D groups to drive product quality continuous improvement.
- GTS is the main filter between the Field Service Organization and our Factories
- GTS colleagues based in factories are Subject Matter Expert (Module)

- GTS Mission - Technical support for FSE :

- Hotline 24/5
- Remote Support (RAPID)
- Onsite visit for Escalation / Installation support
- Onsite visit for upgrades



GTS-F SEM-SDB EMEA - Team



[Robert Wiersma \(00175...](#)

Manager, Technical Support
📍 Netherlands - Eindhoven - ...

23 years



[Frank van den Hurk \(00...](#)

Technical Support Specialist III
📍 Netherlands - Eindhoven

43 years



[James Wilkinson \(0017...](#)

Sr Technical Support Speciali...
📍 UK - Hemel Hempstead - R...

17 years



[Lukas Hoferek \(001775...](#)

Technical Support Specialist III
📍 Netherlands - Eindhoven

12 years



[Marek Sláma \(00178326\)](#)

Sr Technical Support Speciali...
📍 Czech Republic - Brno - Vla...

18 years



[Mark O'Brien \(10504144\)](#)

Technical Support Engineer
📍 UK - Hemel Hempstead - R...

38 years



[Michal Vasicek \(00452...](#)

Sr Technical Support Speciali...
📍 Germany - Dreieich FEI

15 years



[Petr Dostál \(00176301\)](#)

Technical Support Specialist III
📍 Czech Republic - Brno - Vla...

17 years

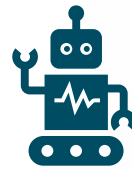
Innovation & Transformation



**Cloud for
Service**



**Diagnostic
Quality**



**Virtual
Assistant**



**Generative
AI**



**Direct
Alerting**



C4S Deployment Timeline



26 February - Wave 1:

Southeast Asia:

- Singapore
- Malaysia
- Thailand
- New Zealand
- Australia
- Vietnam
- Philippines



27 May - Wave 2:

- Japan
- Korea
- Taiwan
- China
- Hong Kong



26 August - Wave 3:

- EMEA
- North America



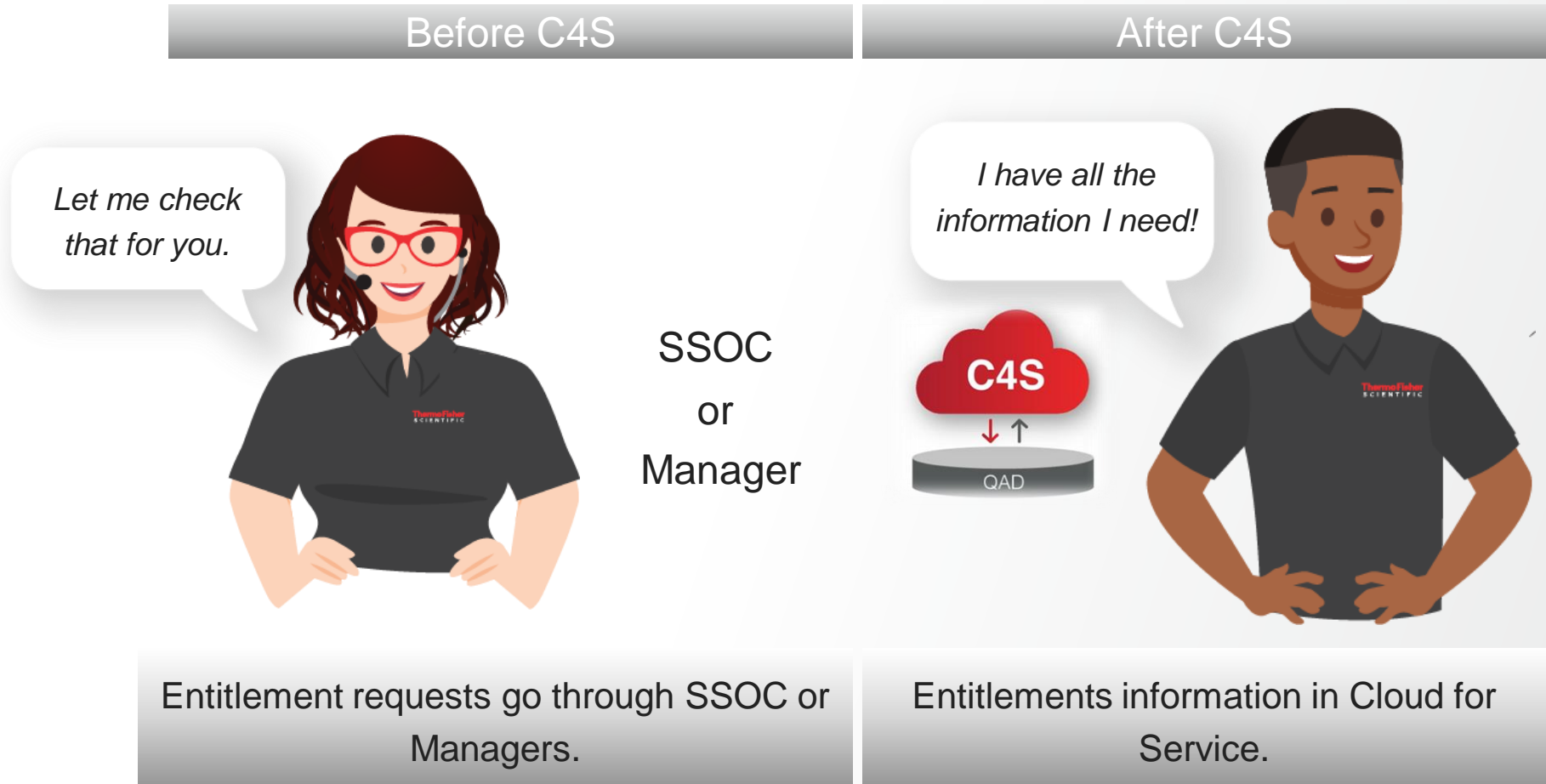
USERS

≈110

≈430

≈730

Entitlements in C4S



Entitlement requests go through SSOC or Managers.

Entitlements information in Cloud for Service.

Front Line Leader C4S Benefits

Enabling a smarter way of working.



Improved operational business understanding

- Quick operational reporting
- Team engagement visibility
- Ticket status and history overview
- Improved Parts tracking
- Mobile device access



Dynamic integrated solution

- Reduction of applications
- Integration of existing applications:
 - OCM+
 - MindTouch
 - Genesys



Improved communication with colleagues and customers

- Direct communication from within the ticket reducing email
- Real-time Messaging capabilities
- Enhanced FSR sign-off for customers

Service Virtual Assistant – Program

MSD

GSS

IES

ThermoFisher
SCIENTIFIC

TAILORED GENERATIVE AI TOOLS

SERVICES VIRTUAL ASSISTANT

Built on our Thermo Fisher generative artificial intelligence solution, Gene.AI, our Services Virtual Assistant is an AI-enabled resource with access to our service document repositories*



Begin chatting with Services Virtual Assistant

Not sure what to ask? Try one of our sample prompts!

How do I install a 4-port serial PCB in the TSQ Quantum data system computer?

How often should I clean the API source on the TSQ Quantis?

How often a preventive maintenance should be performed on a TSQ Quantiva?

What is the role of MP00 rf lens on the TSQ Fortis?

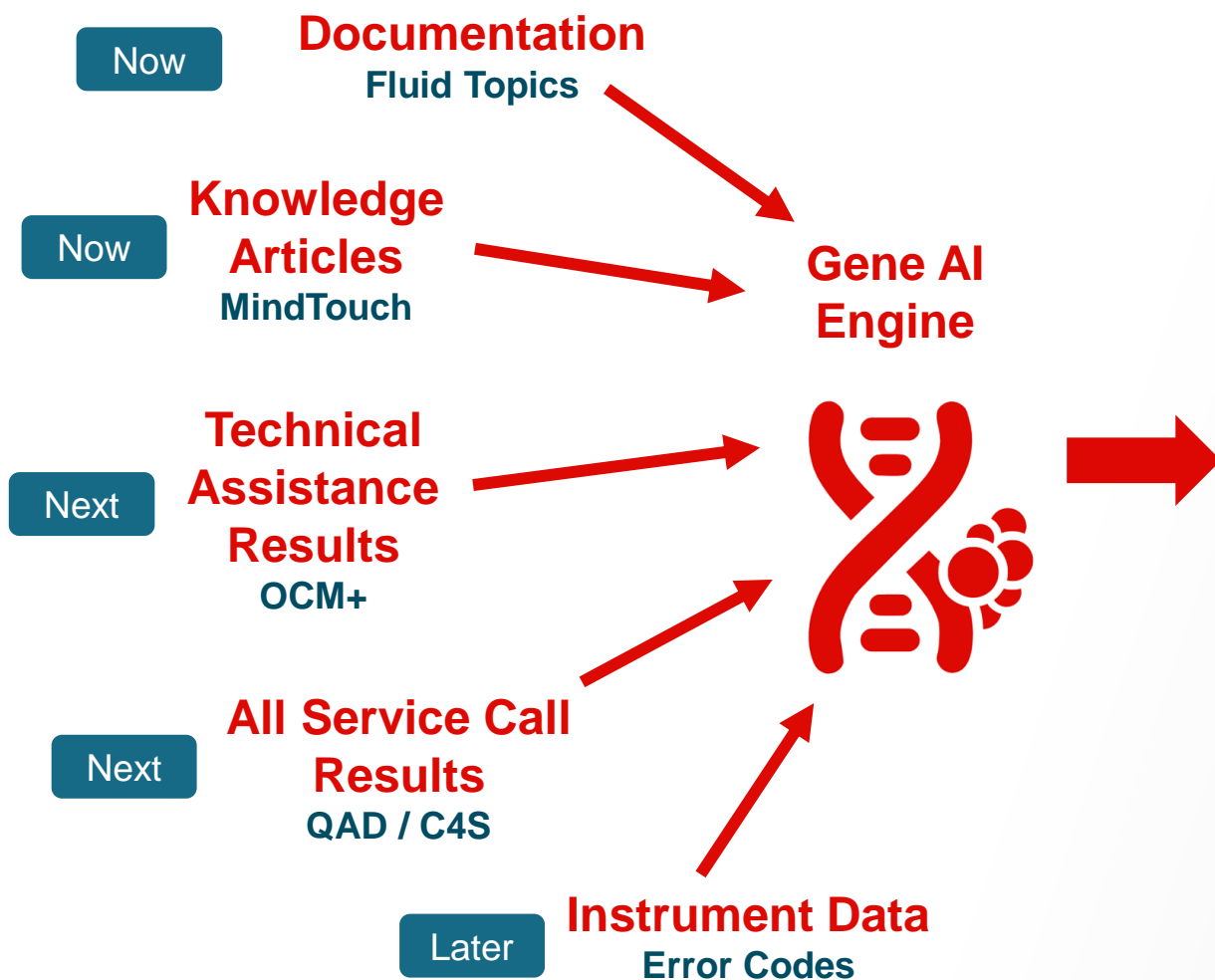
OUR OPPORTUNITY

With disparate, complex knowledge sources, searching for information is manual and time-consuming.

BENEFITS

Colleagues can expect an easier, AI-enabled solution to access information and enable real-time solutions with a goal to improve remote resolution and time to resolution.

Service Virtual Assistant – Concept for MSD



How can I change the Z motor on a UHR stage?

To replace the Z motor on a UHR stage, follow these steps:

1. Put the system to standby.
2. Remove the stage door if possible to get better access to the stage.
3. Take out the RZY unit according to part of WI 1019011 on Service CD.
4. If the RZY unit is out, place this on the table (on a box if the cables are not long enough).
5. Remove the 2 clamps that hold the motor.
6. Take the "old" motor out and mount the new one. If cleaning is necessary, then clean the motor tips and the surface of the Z ceramics.
7. Place new/clean Z motor in.
8. Route the cable the same as the old cable is.
9. Mount the clamp back for the motor and the cable.
10. Mount the RZ unit back to the Y sled. Lift the Z to the top of its range so there will be more room to get it into the Y sled without pinching the cables damaging the ground wiper arm. Be careful that the cables are not get stuck or clamped between the parts, the cables can be cut. Pay especially close attention to the Z motor cable itself. There are two wires (Z motor and ground wiper) coming on one side and three wires (Rotation encoder, Z encoder, and R motor) on the other side ^{1 2}.

Please note that this instruction is intended only for skilled Field Service Engineers (FSEs) who are already familiar with UHR stages. Any unskilled effort may result in stage damage. Work only with clean gloves on and use cleaned tools to avoid contamination of the stage ¹.

2 references >

AI-generated content may be incorrect

Winning Together in 2024

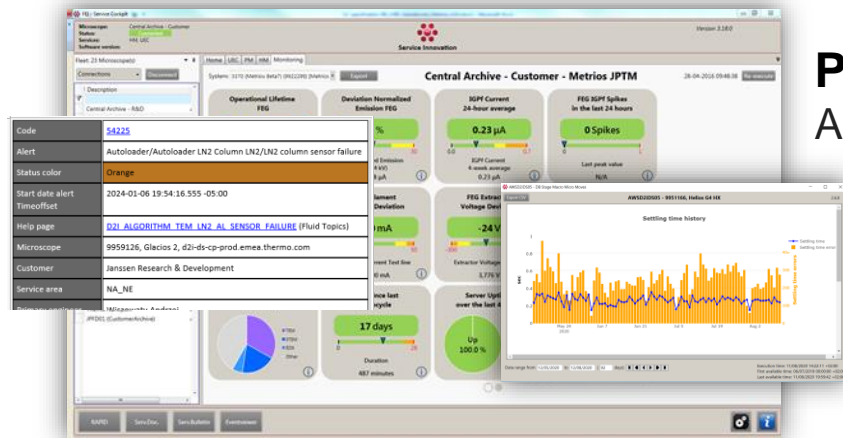
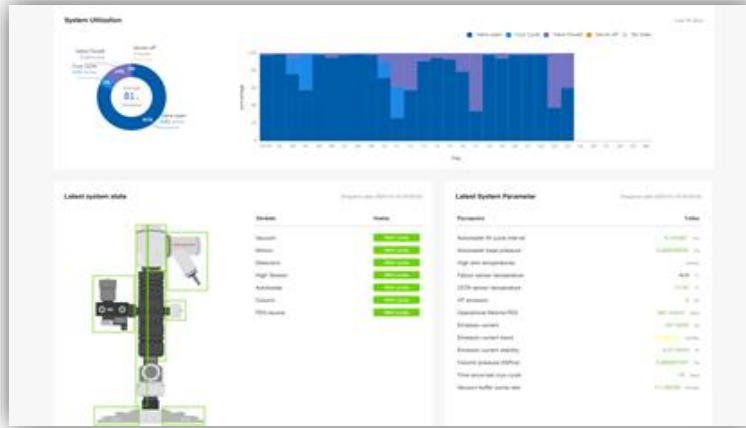
Direct Customer Alerting Pilot

 The world leader in serving science



Digital monitoring in EM Services

Customer insights:
Connected Care Portal



Proactive support:
Alerting → PAM call

Problem with proactive support:
PAM calls are not always proactive enough

I received a PAM call that the liquid nitrogen refill on your Cryo-TEM autoloader failed

FSE



*I KNOW!!!
The autoloader heated up 8 hours ago. All my precious samples are destroyed!*

Customer



Direct customer alerting

Notification channel for alerts that require immediate attention

The customer receives an SMS directly to their phone within 10 minutes of the event.

Characteristics of a customer alert:



Alerts that need a quick follow up (reactive)



(Primary) follow up action is a customer action



Customer impact is high (sample loss, experiment fails, long down times)

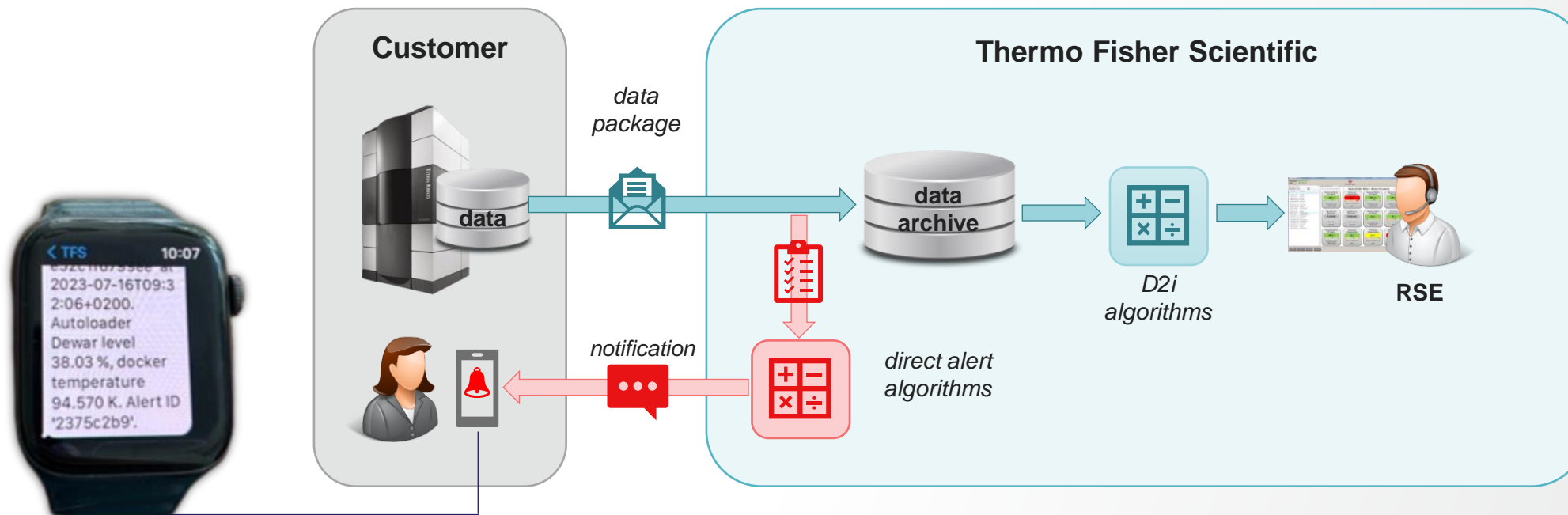


Examples of requested Direct alerting

- Imaging stopped (Krios, Glacios)
- HT shut down (TEM)
- Empty LN2 vessel detection (Krios)
- Optical boards failure
- Tracking errors xx-axis (DB)
- EDX heater events by IGPco (TEM)
- HT G2 Active Interlocks (TEM)
- IGP failure after last cryo cycle
- ...

How does it work?

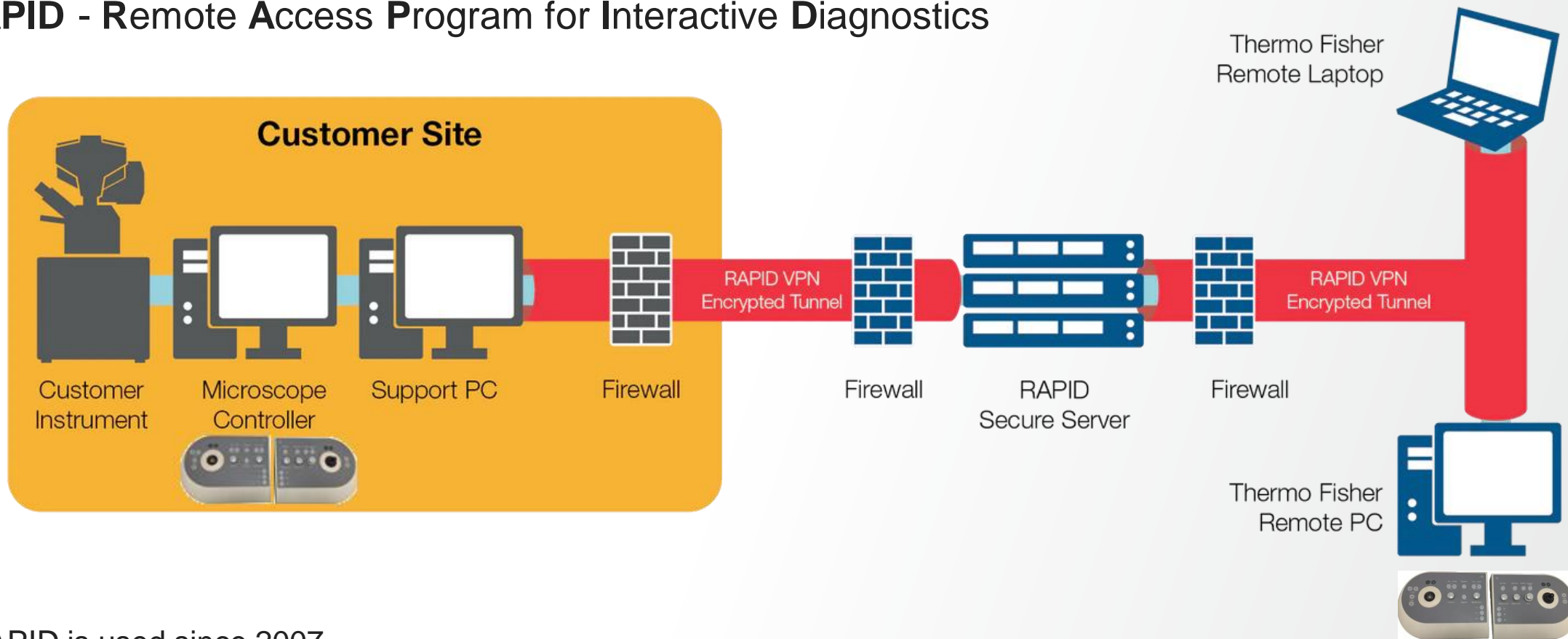
Fast lane data pipeline parallel to the conventional D2i data pipeline



1. High frequent data collection: 1 hr → 5 min
2. Condition based algorithm execution at incoming package
3. Push SMS notification to the customer

RAPID Introduction - Key Features

RAPID - Remote Access Program for Interactive Diagnostics



- RAPID is used since 2007
- Real time operating a microscope remotely
- ~ 4500 customer instruments
- ~ 1100 RAPID TFS Engineer accounts

- Installed at instruments in the factory
- All instruments are Eligible for RAPID

Connected Care Portal

Analytics & data insights enable proactive and predictive maintenance

Proactive



Access productivity indicators

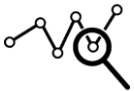


Manage fleet across production facilities

Predictive



Identify system health & consumable wear

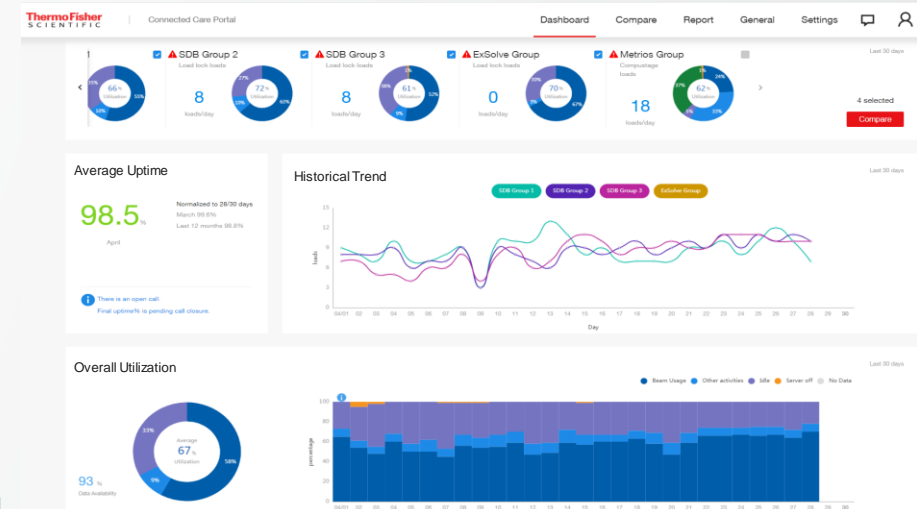
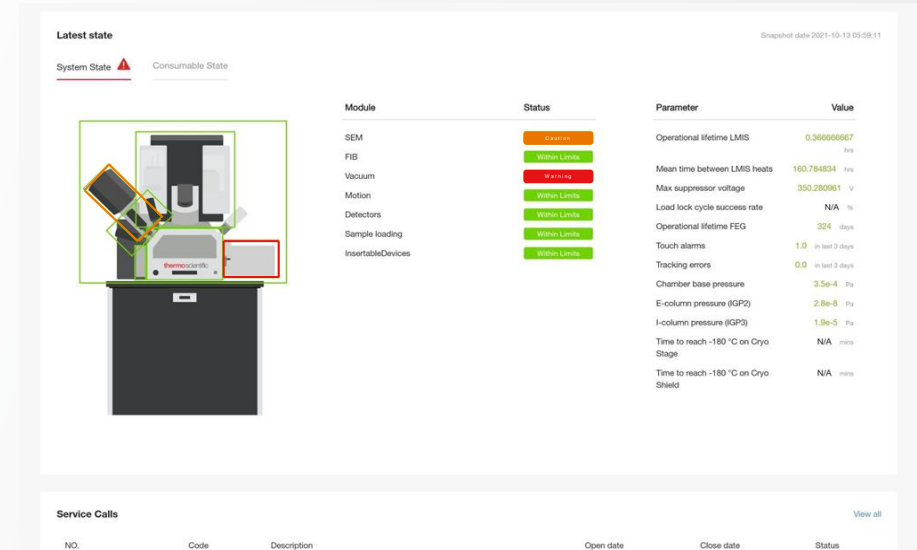


Analyze system health & performance trends



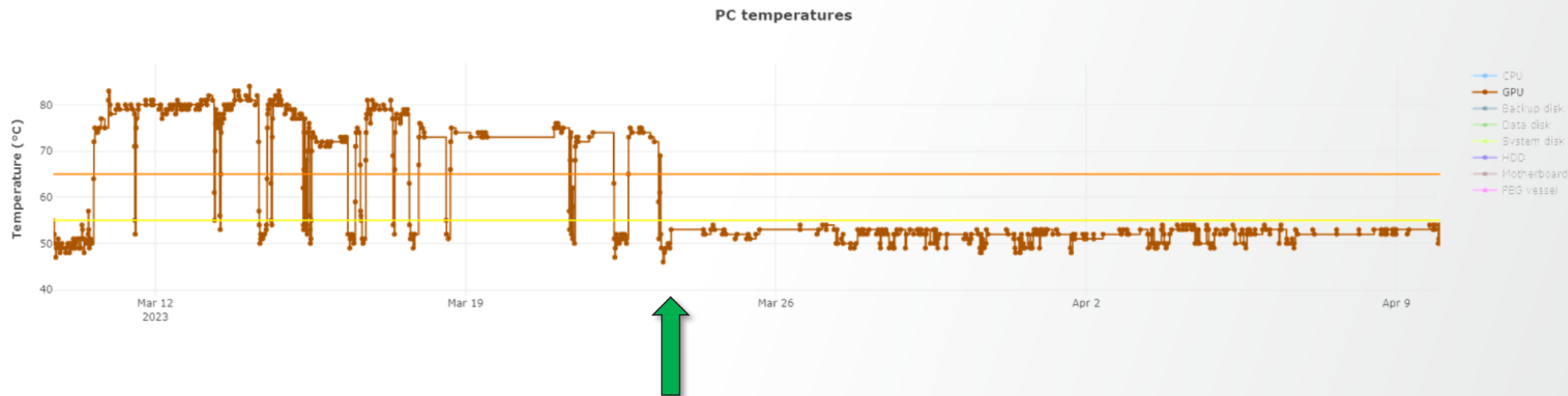
Generate reports & service calls

<https://www.thermofisher.com/fr/fr/home/electron-microscopy/services/materials-science-service-support.html>



System Remote Monitoring – PAM Example 3

Titan Krios G3 – GPU Temperature Too High

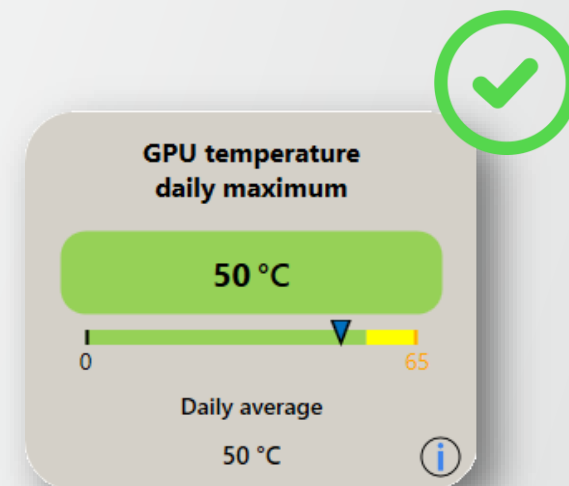


Remote Service Engineer feedback:

“On 10/03 (1:45 PM) the GPU temperature has risen from 50°C to 80+°C and stayed there since. Fans and other temperatures are OK. Most likely the GPU is on the verge to break.”

Field Service Engineer feedback:

*“Health check of Krios in response to D2i alert. Had to **replace the graphics card** and combined this with the RAPID and Sherpa issues. GPU temperatures now back to normal baseline value.”*



Thank you

