

ESCCON


9 - 11 March 2021 | Online | CET Time Zone



INCREASED DIGITALIZATION OF THE SUPPLY CHAIN, INCLUDING TESTING, IS BECOMING A NEW TREND

David Núñez, EEE Parts Division Director

“It is clear to see that digitising your supply chain and your company is not only the logical next step, but the necessary one. With financial and time-saving benefits being just two of the significant benefits from it, the sooner you begin the process the better.”



<https://www.supplychaindigital.com/supply-chain-2/how-supply-chain-logistics-can-improve-vehicle-tracking>

More connectivity



- Rising interconnectivity speeds disruption, upending the principles for disruptive innovation
- Free-moving information bypasses—and challenges—existing hierarchies

Lower transaction costs



- Barriers to entry and costs to achieve scale are evaporating
- Internal bureaucracy presents more friction than external interactions and free-market transactions

Unprecedented automation



- Increased automation undercuts the mechanistic thinking upon which organizations were created
- 200 years of management thinking on control and predictability become obsolete

Fundamental societal shifts



- Gen Z and beyond will have new, fundamentally different career aspirations
- Expect more variety and learning, more leadership and promotion opportunities, more social impact, and more career mobility

4

big trends are shaping the way to do business in the near future

a combination of heightened connectivity, lower transaction costs, unprecedented automation, and shifting demographics

<https://www.mckinsey.com/business-functions/organization/our-insights/organizing-for-the-future-nine-keys-to-becoming-a-future-ready-company>

01



Supply chain digitalization

23%

of supply chain leaders expect to have a digital ecosystem by 2025, up from only 1% today.

02



Globalization and offshoring

46% and 61%

of supply chain leaders anticipate declines in globalization and offshore manufacturing, respectively, over the next five years.

03



New business models

79%

of supply chain leaders think that an internet-/platform-based approach is the most critical new business model to support postpandemic recovery.

E-commerce shift 04



69%

of supply chain organizations expect a decrease in consumer willingness to visit stores over the next five years.

Remote and distributed teams

05



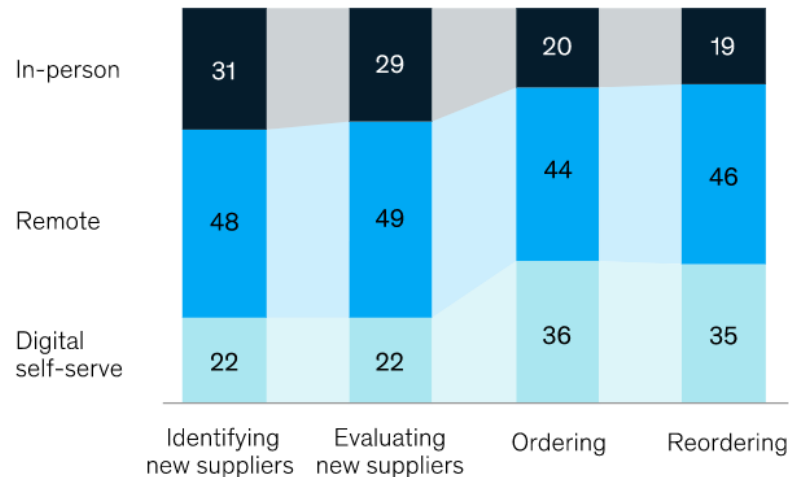
98%

of supply chain leaders believe working from home will increase over the next five years.

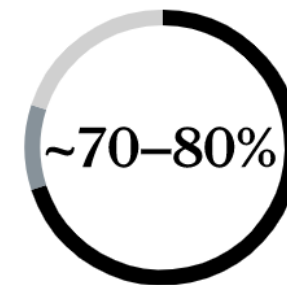
Most B2B seller interactions have moved to remote or digital ...

Current way of interacting with suppliers' sales reps during different stages^{1,3}

% of respondents



... and that's exactly what customers want.



of B2B decision makers prefer remote human interactions or digital self-service^{2,3}

Why?

- Ease of scheduling
- Savings on travel expenses
- Safety

¹Q: "How would you currently interact with sales reps from your company's suppliers during the following stages of interactions?"

²Q: "How would you prefer to interact with sales reps from your company's suppliers during the following stages of interactions?"

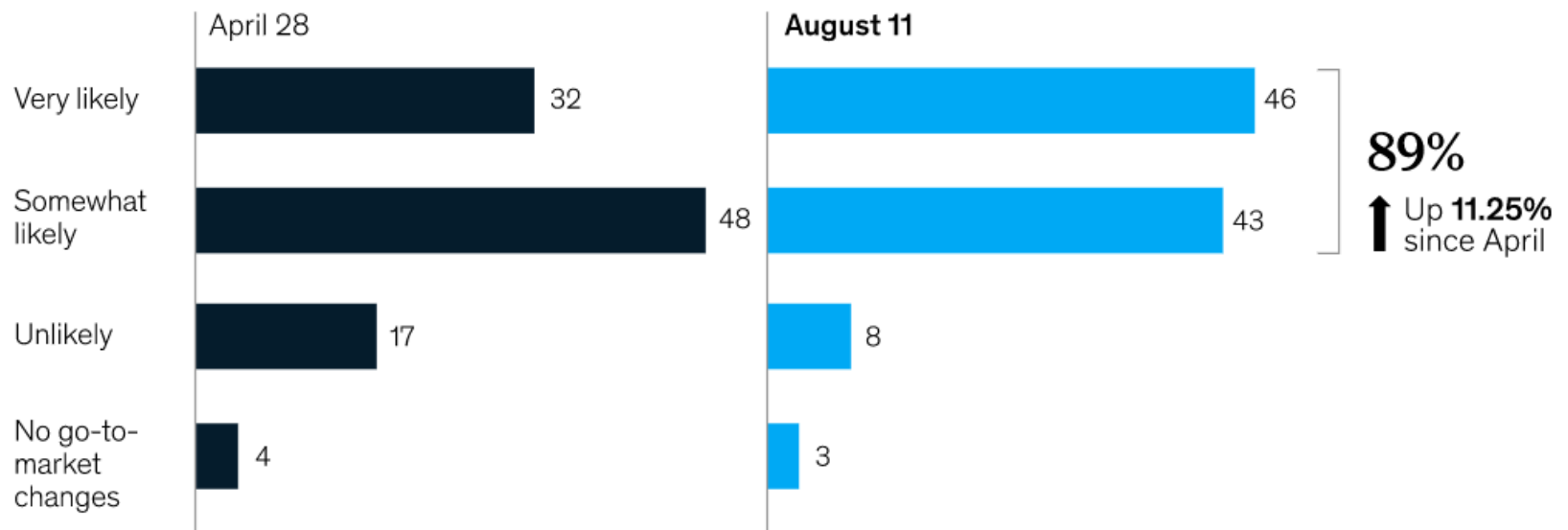
³Figures may not sum to 100% because of rounding.

<https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/these-eight-charts-show-how-covid-19-has-changed-b2b-sales-forever>

Companies expect the changes to stick.

Likelihood of sustaining new go-to-market models for 12+ months^{1,2}

% of respondents



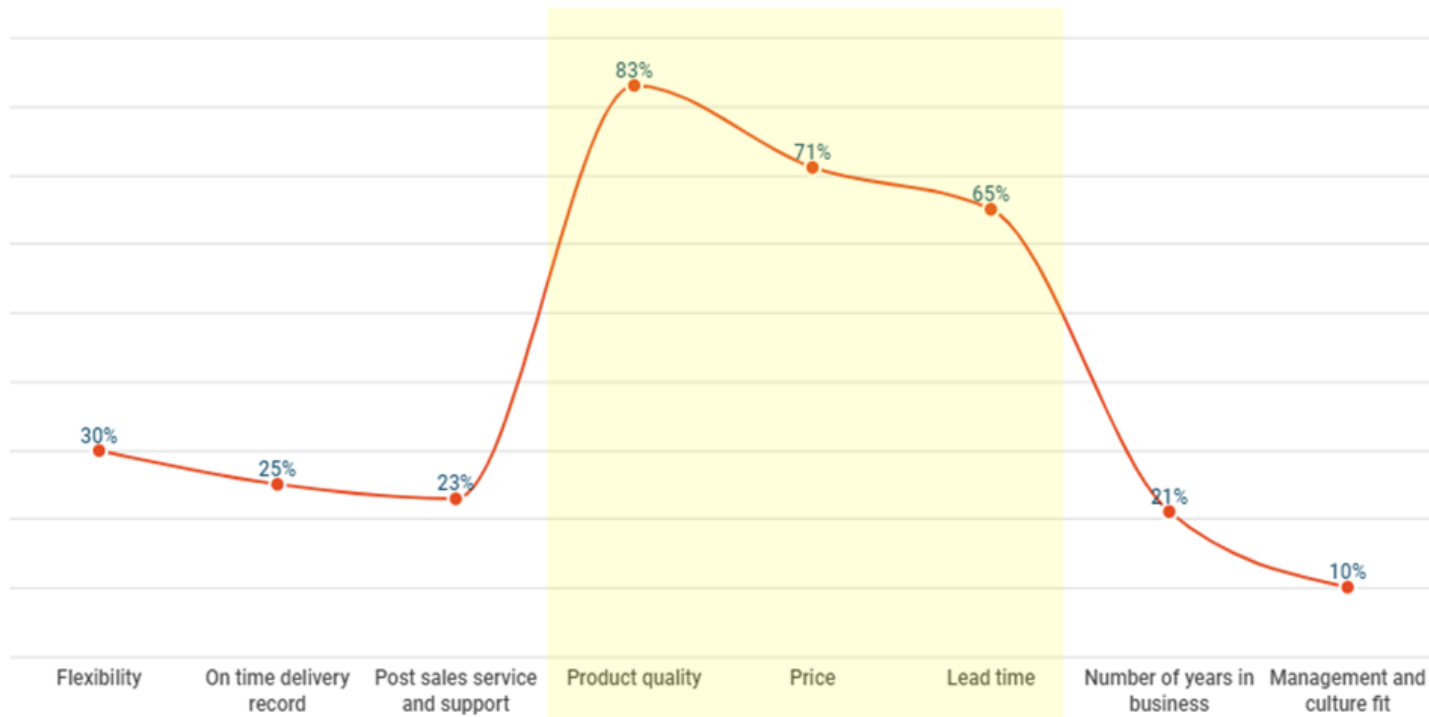
¹Q: "Which of the following statements best describe the changes your company has made to its commercial and go-to-market model during COVID-19?"

²Figures may not sum to 100% because of rounding.

Source: McKinsey COVID-19 B2B Decision-Maker Pulse #2 4/20–4/28/2020 (n = 3,755), McKinsey COVID-19 B2B Decision-Maker Pulse #3 7/27–8/11/2020 (n = 3,626)

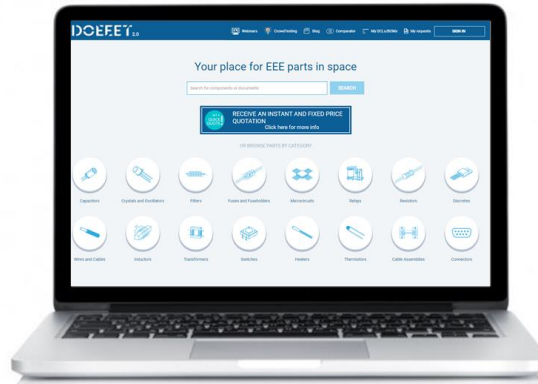


the 3 key elements
**are a perfect fit
for digitalization**



More important topics when selecting a supplier. ATN survey on Supplier Selection. To be published soon in DoEEEt.com

DOCEEY and the product quality



- 01 ● **Conformance**
- 02 ● **Performance**
- 03 ● **Reliability**
- 04 ● **Efficiency**
- 05 ● **Usefulness**

1 Access to key information otherwise disseminated

2 Hi-rel database with more than 22m references

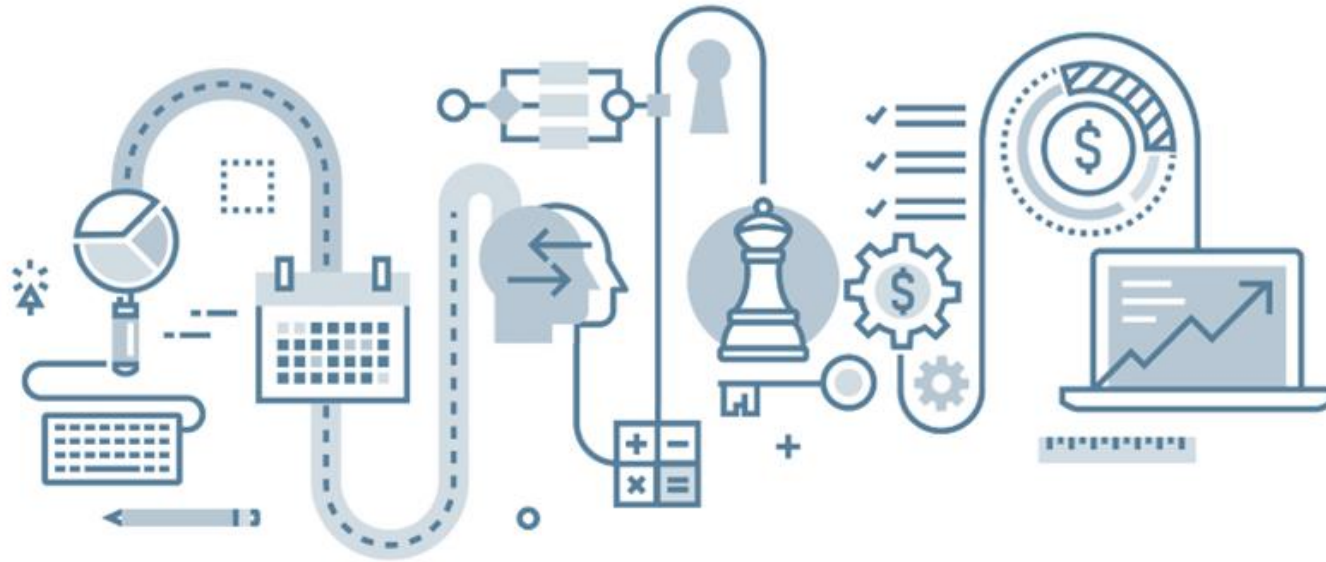
3 COTS and automotive parts also available

4 Comparison of product performance and quality

5 Access to test flows

6 Availability of all related documentation

DOCEET and the final price



1 Direct access to the key information

2 Less intermediate steps

3 Reduced number of manual operations

4 Integrated process

DOEEET and the (lead) time to market



- 1 All the information available in one place
- 2 Price info available in a click
- 3 Stock availability
- 4 Expedited decision process thanks to access to information
- 5 24/7 Digital Self Services thanks to MyDoEEET

DOFEET can be adapted to your specific needs

**Application
Programming
Interface**



**Electronic
Data
Interchange**

**PunchOut
catalog**



Get immediate access to the only EEE Hi-Rel components tool for space applications

Your place for EEE parts in space

Browse parts by category



SUPPLIER ENABLED INNOVATION

can create a strong
basis for innovation and
collaboration

Digitization allows a basis for sharing goals and values instantaneously and continuously. Communication is the first step behind collaboration. Collaboration is the first step behind innovation.

Creating a basis for strong buyer-supplier collaboration will eliminate the silo communication and productivity of suppliers, not interested in creating mutual value within the relationship.

<https://kodiakrating.medium.com/digitization-of-the-supply-chain-the-future-is-now-767fc2db800e>

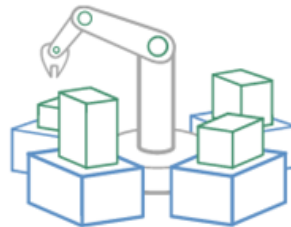
VIRTUAL LAB CONCEPT

**RUN EXPERIMENTS IN THE LAB
FROM ANYWHERE IN THE WORLD**



1 DESIGN

Design your tests over the web



2 CONDUCT

Virtual Lab conducts your tests



3 EXPLORE

Virtual Lab organizes your data into a smart data base

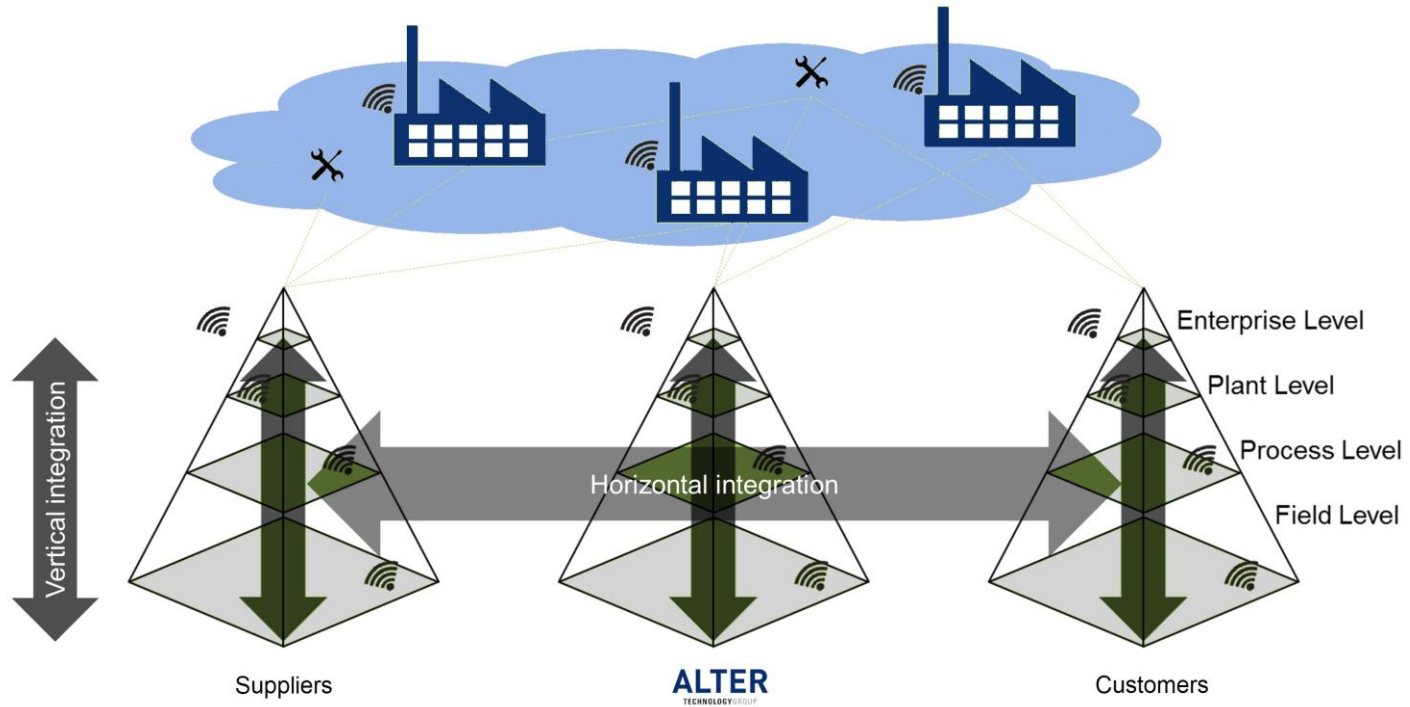


4 ANALYZE

DOEEET crunches and analyzes data

HORIZONTAL INTEGRATION

 Virtual Lab



You can get access to our Virtual Lab through the following link:
<https://virtuallab.altertechnology.com/>

Virtual Lab ETA
Sign Up Sign In

Navigation

- Home
- Laboratory Services
- Insulation verifications
- Microsectioning
- Vibration
- Scanning Acoustic Microscopy
- X-Ray
- My test

PCB assembly and soldering operations remain amongst the more delicate space-components fabrication task as they may compromise the integrity and performance of the whole system. For this reason ESA pays special attention to the workmanship assessment and have issued specific regulations to cover these topics, **ECSS-Q-ST-70-08C** and **ECSS-Q-ST-70-38C**. The mission of **Materials & Processes Laboratory** is to thoroughly assess the reliability of the PCB manufacturing and soldering for space applications. These tasks require specifically trained and skilled analysts **holding the applicable ESA certifications**.

Materials & Processes Laboratory is listed as an **ESA recommended microsectioning facility** and the **only one accredited ISO/IEC 17025:2017** to carry out microsectioning/inspection together with the **environmental, vibration and shock tests** for PCB and SMD verifications.

Main Test Services:


- Soldering verification.
- Vibration and shock test.
- Thermal shock and temperature cycling.
- Microsectioning.
- Radiographic inspection in real time 2D / 3D.
- Scanning Acoustic Microscopy.
- Material analysis.
- PCB coating evaluation.
- Blistering and delamination analysis.
- Tin Whisker testing.
- Dye penetrant.

Virtual Lab capabilities:

- Full access in real time to the output of the on-going test.
- Direct link to the analysts performing the tests.
- Permanent access to historical results.
- Full access to the biggest picture bank available in the market.
- Training material.
- Documentation management.
- Push Notifications.
- Full mobile application.

Accreditations:

- ESA recommended Microsectioning Laboratory in accordance with ESA-TECMSP-M0-013165.
- ISO/IEC 17025:2017.
- ESA certified inspectors in accordance with ESA-STR-258.



QUALIFIED PERSONNEL




MEMO

Date	27 of March 2019	Ref	ESA-TECMSP-M0-013165
From	C. Vidale (Tech Manager)	Via	T. Reiz (ESA Manager)
To	SMT Approval assembly line, ESA PA Managers, ESA A/E training school, ESA recommended microsectioning facilities	Copy	G. Cvetkovic, J. Hukka, S. Permal, S. Hahni

Subject: ESA recommended microsectioning facilities

The following facilities are ESA recommended for inspection, microsectioning and assessment of the microsectioning of assembled devices mounted on verification boards, having been submitted to a verification programme in compliance with ECSS-Q-ST-70-08C, ECSS-Q-ST-70-08C and ECSS-Q-ST-70-38C.

The competence of the laboratories have been assessed by ESA in compliance with ISO-TECMSP-M0-013165 (<https://www.esa.int>). These companies are considered as Category A as described in the ESA-TECMSP-M0-013165 (<https://www.esa.int>).

These companies may also provide expertise in the field of unpopulated Printed Circuit Board microsectioning.

The list of companies is uploaded on the esacis website (www.esacis.org).

Alter Technology TUW
 Mr. Manuel Dominguez
 Tomas Alfo Felices 4
 PCT Curitiba
 4092 SreEla

ALTER TECHNOLOGY

1 Full access in real time to the output of the on going test

2 Direct link to the analysts performing the tests

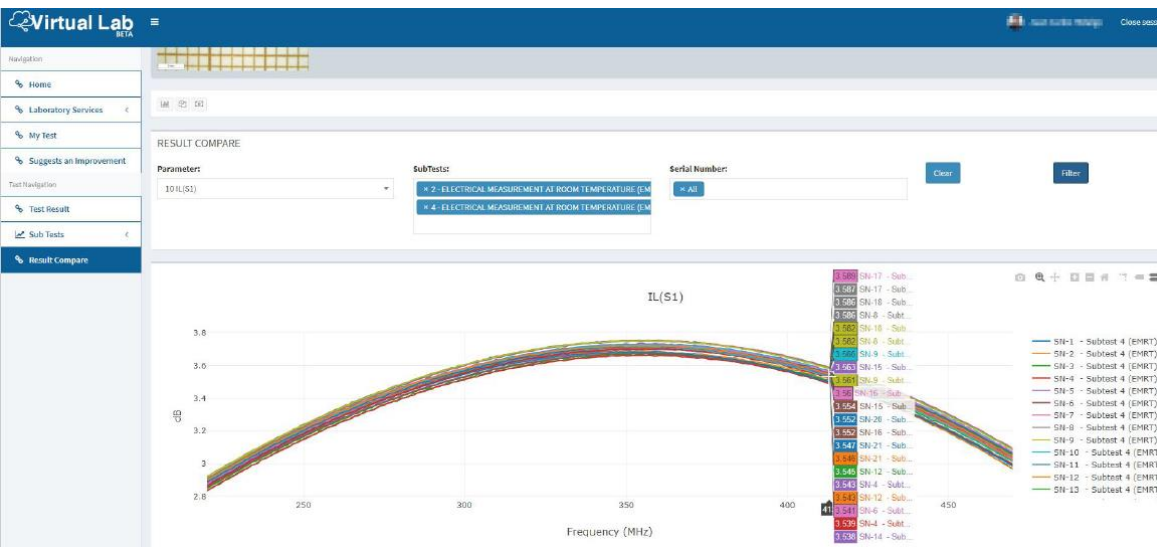
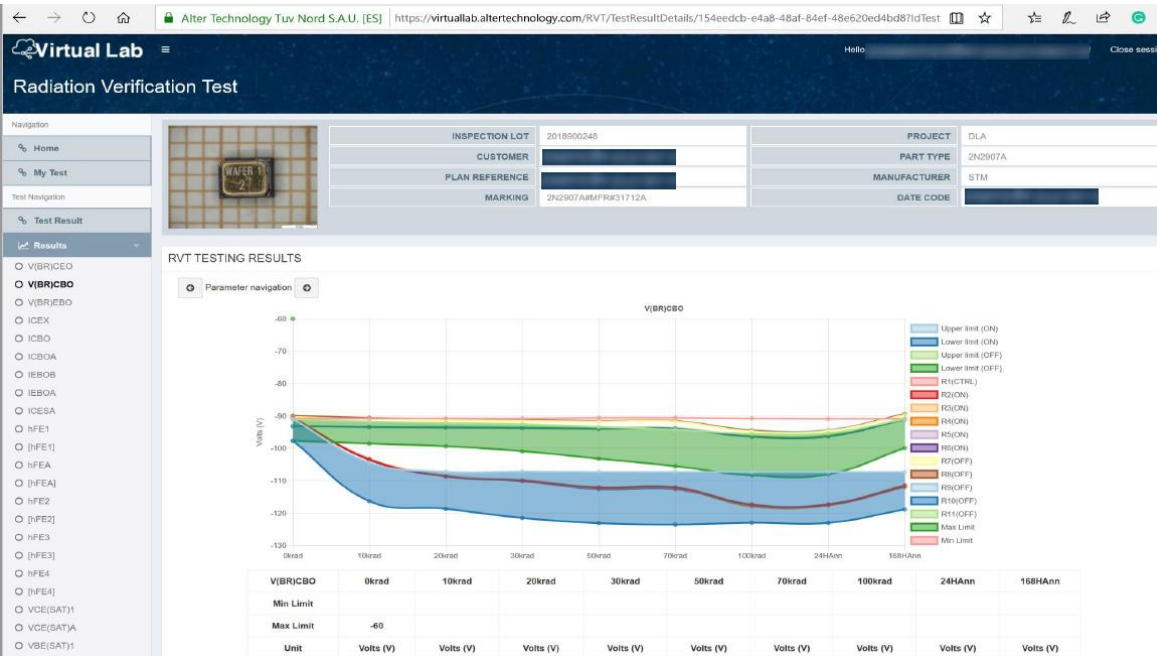
3 Direct interaction with technicians

4 Permanent access to historical results

5 Predictive analysis

6 Documentation management

7 Push Notifications



redesign its attributes



Sergio Rufini, Payload Assurance

DLR

VirtualLab is an advanced platform implemented as any modern project related tool should be. An intuitive and fast interface where all the test related material is easy to retrieve and well organized. Questions and discussions about results can be carried on within the tool by avoiding redundancy in communication or fragmentation of information. It is surely a useful instrument to use, an asset to the project that saves time.

Beatriz Sánchez, EEE Parts and RHA Engineer

OHB

It is great and practical to see the progress of the test, having all the images and information as they come out, and allowing comments and discussions with the lab technician

Peter Budac, Product Assurance Manager



The Virtual Lab is very useful tool where you can see actual progression of microsection of components one by one which save time in case of failed components Moreover, you can directly write comments to each microsection and get answers from inspector who performed metallographic analysis

ALTER TECHNOLOGY

Antoine Chassillan, EEE Parts Assembly Eng.

SODERN

VL offers is a user-friendly interface from which we can check in real time the upcoming DPA results for a higher reactivity

Carla Félix, PA & Quality Manager



It was surprising and super interesting to access the virtual lab, it is an extremely good alternative to be "present" during a testing campaign and saves travel costs. Virtual Lab is a very convenient tool, very interesting, and the engineering staff was very friendly and attentive, always responding promptly to the questions asked

Elisa Torres, Technology and Processess Manager

TAS Spain

Our feedback with the Virtual Lab is very positive. It is possible to see results of microsections in real time. Welcome to digitization!"

Isabelle Ekström, Materials and Processes Engineer

RUAG Space AB

It was great! Fantastic to be able to see the results in advance before the report is finished

María Isabel Herrero, Technology Session Manager

AIRBUS CRISA

They have a tool that allow us to consult on real time the evolution of the job on going, being a powerful tool that easy the developing of the activity according to customer requests, to avoid misunderstanding and allowing both parties to be satisfied with the result.

We rely on them totally and we hope to continue working with them from now on.

Bruno Campillo, EEE Parts Engineer

OHB

Virtual Lab is a giant leap ahead in the tracking of the advance of any testing activity. ALTER has made obsolete the old approach of a "black box": the test house received a test plan from the customer and, months later, they provided a test report to the customer, none knowledge in the meantime. Now, each step of the testing flow can be tracked, interim measurements can be consulted, any problem immediately spotted, with all the needed assessment information, and much more. Software interface is intuitive and superbly designed: it is a perfect container for pouring down the contrasted and profound technical skills and knowledge of ALTER

Frank Engelhardt, Head of Design Assurance

OHB

I really like the possibility of looking at pictures in time, before the report is released, thus offering the possibility of requesting additional views

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THANK YOU!