

# DLR GaN Initiative

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A large, high-resolution image of the Earth as seen from space, showing the curvature of the planet, blue oceans, white clouds, and green landmasses. The image is positioned on the right side of the slide, partially overlapping the text.

Knowledge for Tomorrow

# Overview

- DLR GaN Initiative
- 1st DLR GaN Workshop
  - Results
  - Feedback
- Current activities
- Next steps



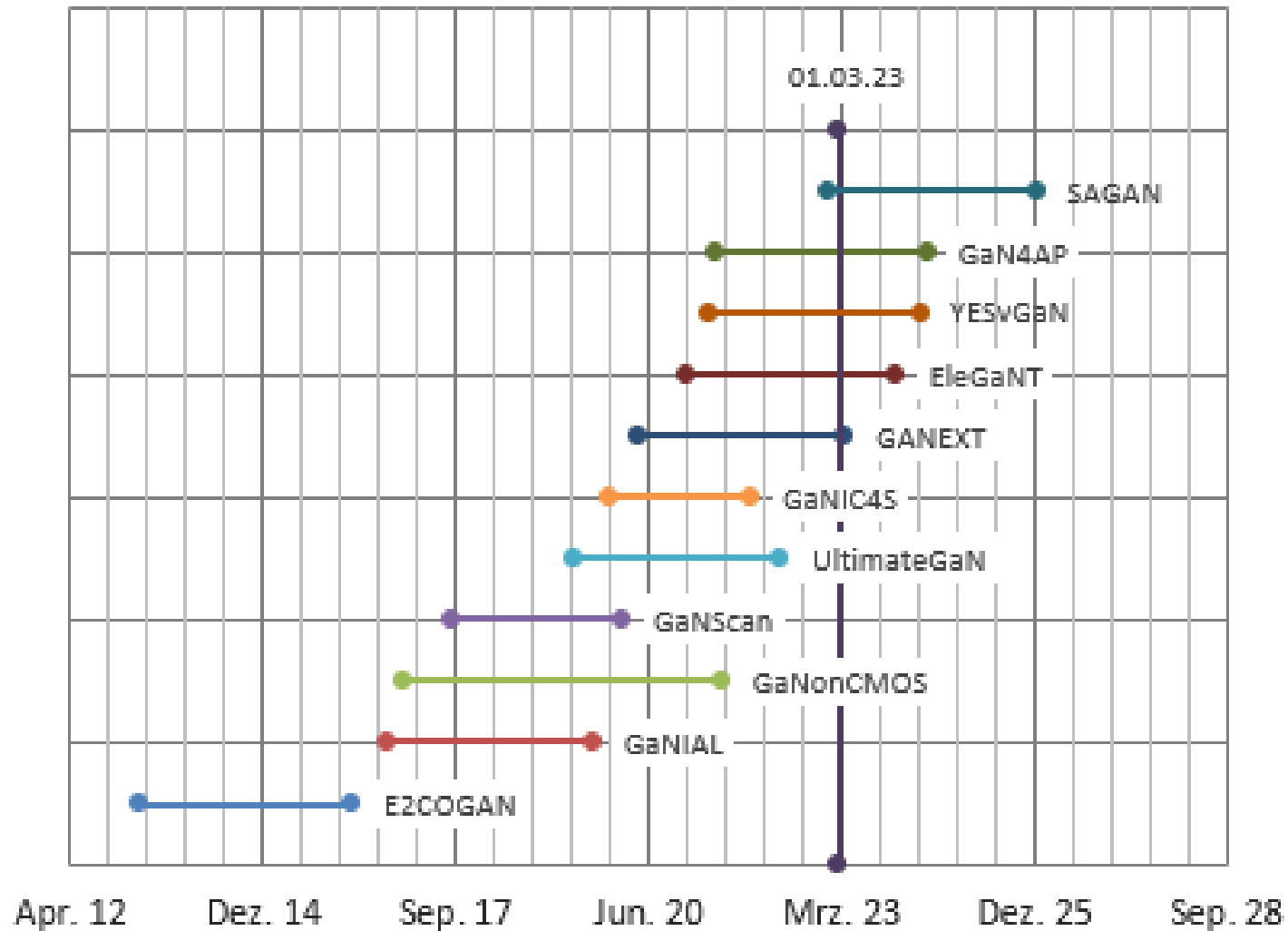
# Goals of German Space Agency's GaN Initiative

- DLR wants to support all parts of GaN supplychain for it to become more competitive
  - Foster networking
  - Identify supplychain gaps
  - Fund and support critical technology steps
- The GaN Initiative contributes to the European sovereignty efforts
  - Coordinate and harmonize with other european programmes



# Ongoing European projects

## GaN power FET Projects



# 1. DLR GaN Workshop

- Goal of the workshop:
  - Current state of affairs for normally-off GaN FETs for power switching (RF GaN were not included here)
- Single day online event in March 2021
- 83 participants
  - 22 companies from all parts of the supplychain including users
  - 11 Universities and research institutes
  - 4 public agencies
- 16 topic presentations



# Summary of Workshop results

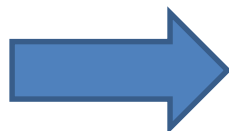
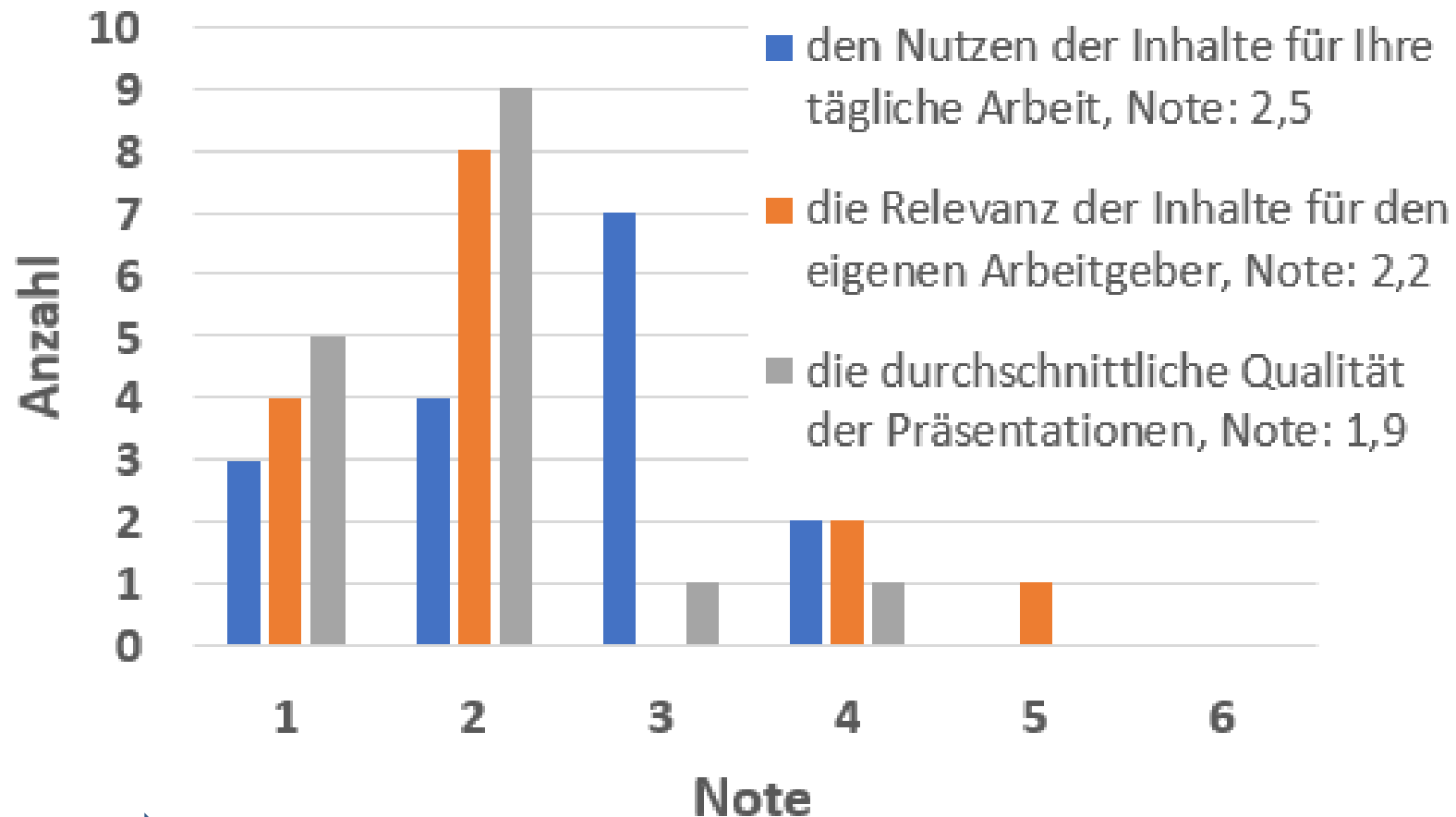
- State of supply chain for normaly-off GaN FETs in Germany:
  - There is know-how for almost all steps in the process of manufacturing GaN FETs in Germany.
  - A quick and targeted funding of all elements of this sector is necessary to close the gap towards non-european GaN FET suppliers. This supports the goal of strategical independence and availability of these components for German and European industry.
  - Close cooperation of epitaxy providers and parts manufacturers is needed to achieve higher reliability of transistors.
    - ⇒ This is true for all players in the supply chain: cooperation is key.
- Room for discussion during the workshop was highly valued.
  - Follow up events are broadly supported.
  - Further discussion should be organized in topic groups.



# Feedback from participants



## Wie bewerten Sie ...

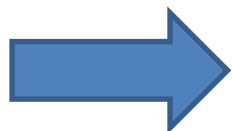
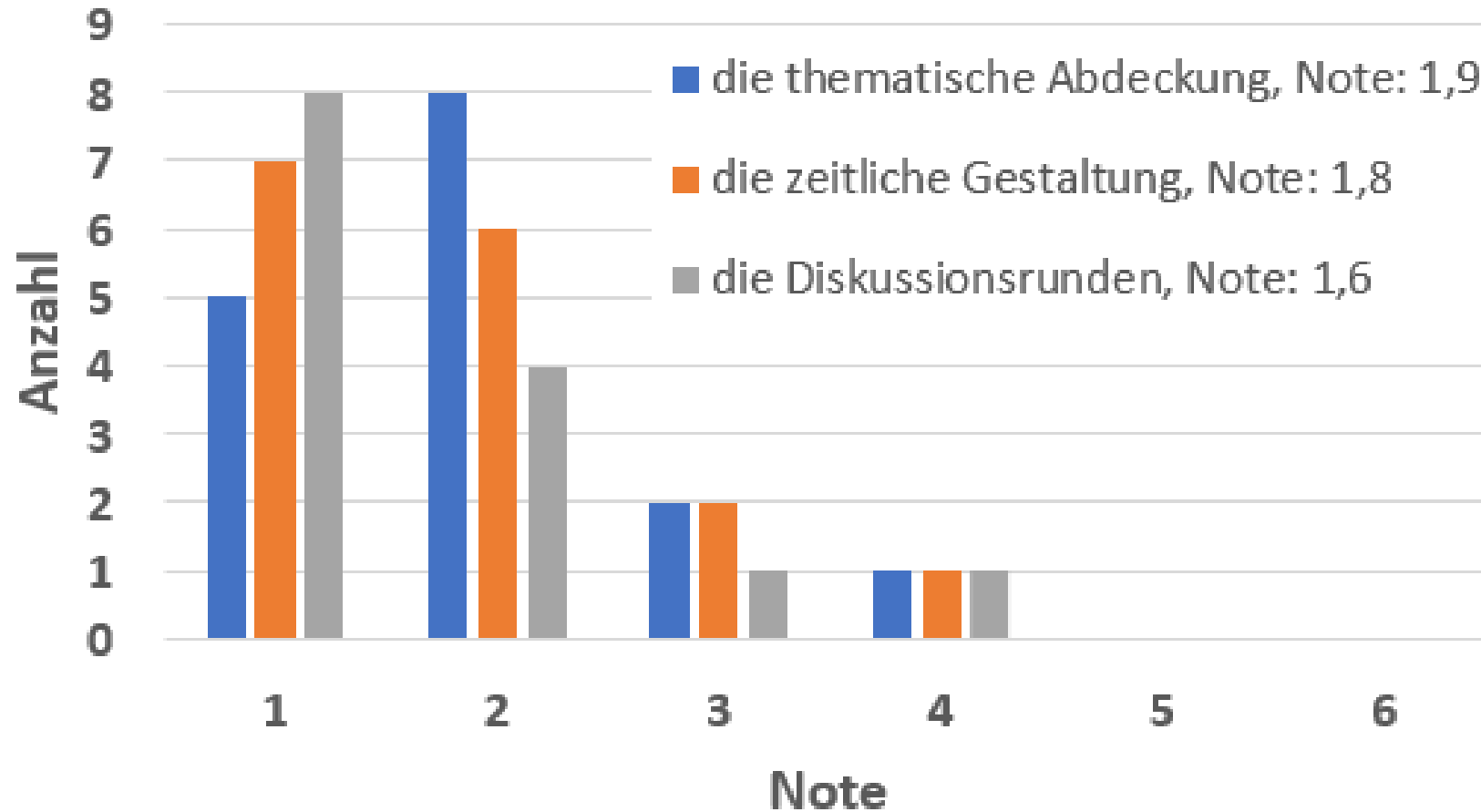


Quality of presentations was very high





## Wie empfanden Sie ...



Efficient discussion rounds



## Feedback from participants

- Discussions in this fashion should be continued and a strategy needs to be derived how to achieve a functional power GaN supply chain.
- Further activities derived from these workshops are very much needed.
- All actors in GaN technology, from users to technology providers should engage in continuous exchange.
- A specification driven top-down approach is useful to bring GaN into application.
- A market overview of GaN parts and an overview of funding opportunities would be very useful.
- More organisations and institutes should have the chance to share their knowledge in presentations.
- Structuring future events in topic groups to work and present specific results supports efficiency.
- Less presentations plus room for direct discussion would be beneficial for a lively exchange.



## Next steps

- Early stage small scale funding activities to explore technological gaps
- Two working groups are envisioned:
  - ***Application WG***
    - Participants: Users of power GaN FETs
    - Goal:
      1. Global overview of power GaN FETs for automotive and space applications;
      2. Drafting of roadmap for power GaN FETs in the German supply chain regarding: voltage, power, frequency, demand, etc.
  - ***Technology WG***
    - Participants: Wafer and epitaxy manufacturers, foundries, parts manufacturers
    - Goal:
      1. Status mapping: technological approaches to improve buffer and surface quality;
      2. Creating cooperation to achieve roadmap goals.
- Funding of selected activities on national level



# Current Activities

- Ongoing bilateral dialogues with German stakeholders
- DLR is building a supply chain database including GaN technologies
  - Internal database in use since 2019;
  - Make competences and abilities in Germany visible;
  - Support German companies in finding partners/suppliers for EEE parts activities.
- DLR Supports German companies in applying EC/ESA for funding
  - ITT overview and support in finding the right corridors;
  - Matchmaking for German stakeholders.



**Thank you for your attention!**

**Question?**

