

ARIANE 6 DIGITAL SUPPLY CHAIN TWIN - BRIEFING

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ARIANE GROUP - SPACE ENABLERS AND MORE

8,300

EMPLOYEES
IN FRANCE
& GERMANY

8

SUBSIDIARIES
& MAIN AFFILIATES

50/50

JOINT COMPANY
BETWEEN
AIRBUS & SAFRAN

**€2.3
BILLION**

REVENUES



SPACE TRANSPORTATION



- Ariane 5
- Ariane 6
- Launch services (Arianespace)
- Future launchers



DEFENCE



- Deterrence
- Space defence
- Remediation
- Naval safety



EQUIPMENT & SERVICES

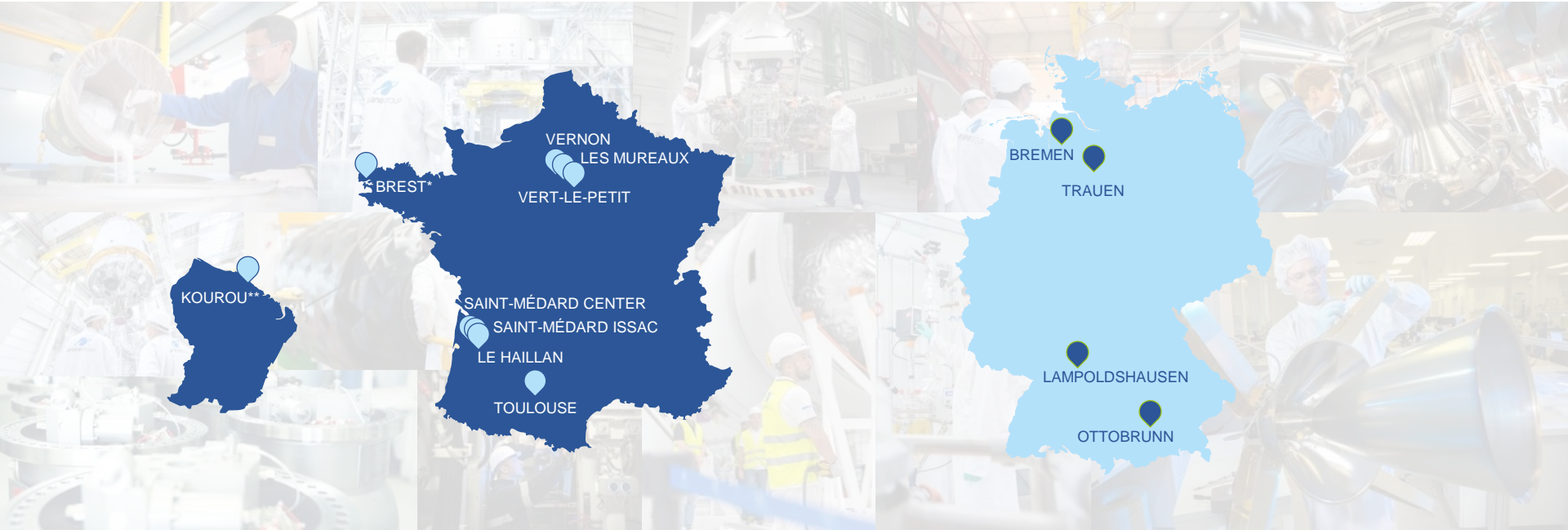


- Solutions for spacecraft
- Solutions for space launchers
- Solutions for industry

LOCATIONS

FRANCE

GERMANY



* Secondment to the French Navy site at Île Longue

** Locations at the European Spaceport, Guiana Space Center (CSG)

ARIANE 6: A VERSATILE LAUNCHER FOR ALL MISSIONS

Unprecedented mission flexibility

- 1 launcher, 2 versions: Ariane 62 and 64
- 2 types of fairings and numerous configurations
- For launching all types of payloads to all orbits

Maximum industrial efficiency

- Reduced production costs for greater competitiveness

Evolutive by design

- Designed to integrate new technologies and evolve to stay at the cutting edge of performance and versatility

13
EUROPEAN
COUNTRIES
INVOLVED



2 OR 4
BOOSTERS

FIRST FLIGHT
2024

UP TO
12 t
PAYLOAD TO
GEOSTATIONARY
TRANSFER ORBIT
(GTO)

UP TO
12
LAUNCHERS PER
YEAR



CONTEXT

- **Ariane 6** components are being produced at multiple sites across Europe and shipped to **French Guyana**. Supply Chain within this multinational program is a **complex challenge**.
- To master it, ArianeGroup has launched a tracking system for assets called **ArianeTracks** : Indoor and outdoor movements of any assets can be tracked. Those recorded data shall be exploited.
- For the **global supply chain optimization**, It is critical to have a global overview on what is happening **in real-time** and be able to provide a forecasted scenario to better anticipate the future.
3 LEVERS : TO BE ON TIME – ON QUALITY – ON COST
- In the frame of this Hackathon, you will be focused on a restricted perimeter : the physical flows of the **containers' fleet of Ariane 6 boosters**. These subparts are produced **in Bordeaux** (South-West of FRANCE) and shipped **to French Guyana**, to be fully integrated to the Ariane 6 Main Stage.



THE CHALLENGE (1/2)

In this hackathon event, it's your turn to convert data into knowledge, which helps to make better decisions and optimize supply-chain of Europe's next generation space launcher Ariane 6 !

Exported data shall be analyzed and visualized by a tool you should develop :

- could be able to illustrate ArianeGroup asset movements in general,
- recognizing patterns,
- show bottlenecks,
- predict/simulate future movements according to the schedule or possible scenarios...

A data-file provision is not foreseen as the final way to transfer information.

Your inputs :

- Use case description (Sequence and transports inputs)
- Dataset 1 : Delivery planning in Kourou (Zone E), back to 2021 until end of 2026.
- Dataset 2 : data export from ArianeTracks that contains Container ID, Geozone, Entry date, Exit date (last export has been generated today)

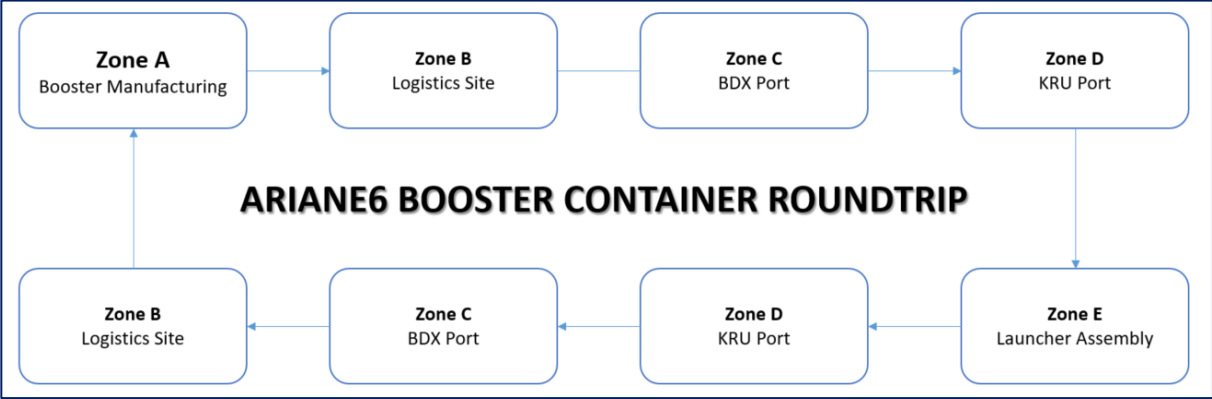
THE CHALLENGE (2/2)

| Functions | Objectives | KPI / figures / visualisation |
|--|--|--|
| OTD prediction vs planed | De-risk/anticipation | NRC, Lead Time, RC |
| Real Time E2E flow view | Dashboarding full view | Current position in the sequence |
| Ressources overview + prediction | Optimize containers fleet for serial production or evolution of cadence | NRC resource consumption prediction |
| CO^2 emissions of all transports & log | Corporate Social Responsibility (CSR) objective of the company, recording/reduction of emissions | Measures and figures |

Please take above mentioned expectations as initial thoughts.

CREATIVITY and INNOVATION on other analyses are highly welcome !

SYNOPTIC OF THE USE CASE



| Step | Zone | Nominal Leadtimes [d] | Transport Times [d] |
|------|------|-----------------------|---------------------|
| 1 | A | 15 | |
| 2 | B | 5 | |
| 3 | C | 1 | 10 |
| 4 | D | 2 | |
| 5 | E | 15 | |
| 6 | D | 2 | 10 |
| 7 | C | 1 | |
| 8 | B | 5 | |

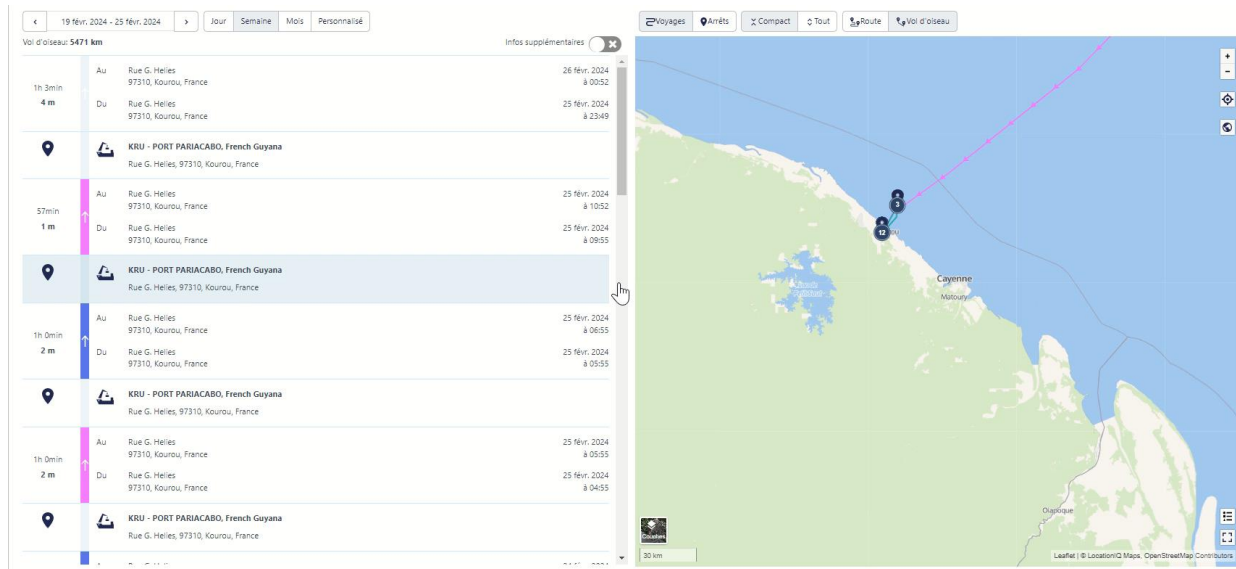
OPERATIONAL NEEDS : CREATE VALUE FROM DATA COLLECTION

AS-IS : Asset Tracking

- ✓ Visualization
- ✓ Basic KPIs generation (utilization rate, distance, duration...)

TO-BE : DSCT*

- ✓ Evaluate deviation from actual planning
- ✓ Generate optimized scenarii : Identify critical paths/bottlenecks...
- ✓ Fleet sizing depending on a forecasted planning
- ✓ Ability to integrate external events
- ✓ ...



*Digital Supply Chain Twin

SCHEDULE

Presentation of the subject :

Thursday, 14th of March: 17:00 to 18:00

Two Q&A slots with ArianeGroup representatives :

Friday 15th of March, 09:00 to 10:30 and from 14:00 to 15:00.

Coaching phases all along the event

Pitching :

Sunday 17th of March, 09:00 to 11:30

Final jury and reward ceremony :

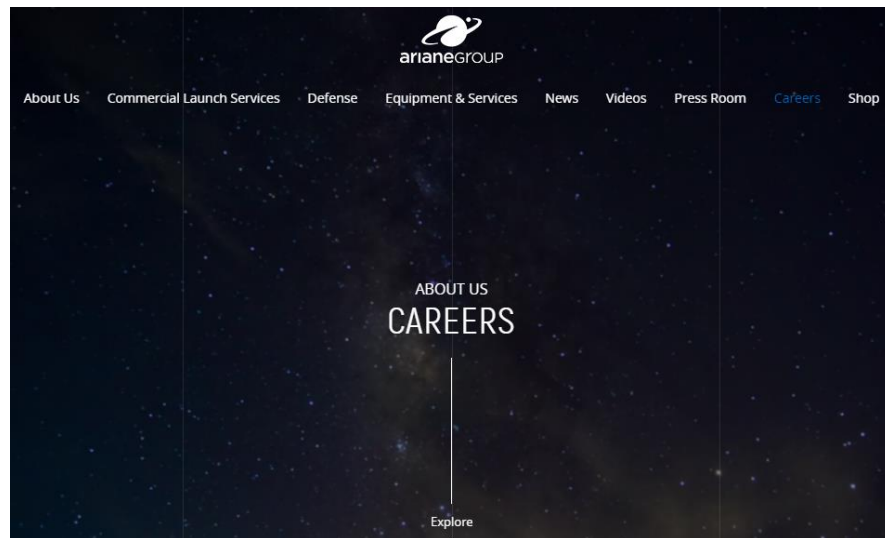
Sunday 17th of March, 12:00

PERSPECTIVES...

- ✓ Participants are fully free to apply to beneficiary's job and internship offers via its recruitment platform:

<https://www.ariane.group/en/careers/>

<https://arianegroup.wd3.myworkdayjobs.com/fr-FR/EXTERNALALL>



**FROM CONVINCING MVP ... TO INTERNAL USE
WE ARE INTENDING TO DEPLOY YOUR SOLUTION IN
PRODUCTIVE ENVIRONMENT**

THANK YOU AND ... GOOD LUCK !

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