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# FOCUS

## AIR TECHNOLOGY RADAR

### Why is this important?

As the world becomes increasingly digital, airlines' future performance depends on the transformation of their distribution and payment processes into a digital retailing environment. This fact has led to the launch of the Airline Industry Retailing (AIR) [portfolio](http://iata.org/air) ([iata.org/air](http://iata.org/air)).

In this context, the AIR Technology Radar is a tool that will help create awareness of technologies and their value in the AIR scope.

The Radar aims to be proactive by studying new technologies before stakeholders express the need to use them.

The Radar is not a market analysis tool, rather a high-level evaluation of technologies based on industry best practices and future needs. It is linked to the standard-setting activities of IATA, as standards are the best way to facilitate the implementation of universal and interoperable digital services.

Additional relevant technologies are further assessed via Proofs of Concept (PoCs).

### Zoom into the topic

The Radar ([airtechzone.iata.org/radar](http://airtechzone.iata.org/radar)) website has two main components: a 2D view of the technologies and a dedicated page for each of them.

The position of technologies in the Radar depends on two factors:

- How widespread technologies are in the travel tech space
- The maturity of the technologies, ranging from still-developing to well-established.

These factors are measured based on implementers' feedback; market studies; technology reports; articles and resources on websites such as GitHub, Stack Overflow, or Google; and any other relevant source of information.

Each technology is detailed on a dedicated page including a high-level description; technical details (working principles, performances, etc.); and an evaluation of the applicability or relevance, either directly to NDC and ONE Order, or more generally to the airline industry.

Many technologies have prominent open source implementations; these are linked from the Radar. Such implementations can be invaluable to airlines, making the testing of new technologies fast and easy, and greatly reducing the cost of development.

All technologies pages have supporting references, including IATA white papers.

### Proofs of Concept

Some technologies warrant a more thorough analysis or their feasibility needs to be demonstrated. This is why the Radar contains PoCs.

For instance, as NDC is an XML standard, there are regular discussions around the JSON data format. A PoC has been made for a bidirectional translation tool, which is described in the Radar and also available online.

A similar approach has been taken with GraphQL, which is an API specification from Facebook (published in 2015). Although much newer and less widespread than JSON, a PoC is already available in order to demonstrate the applicability of GraphQL to NDC.

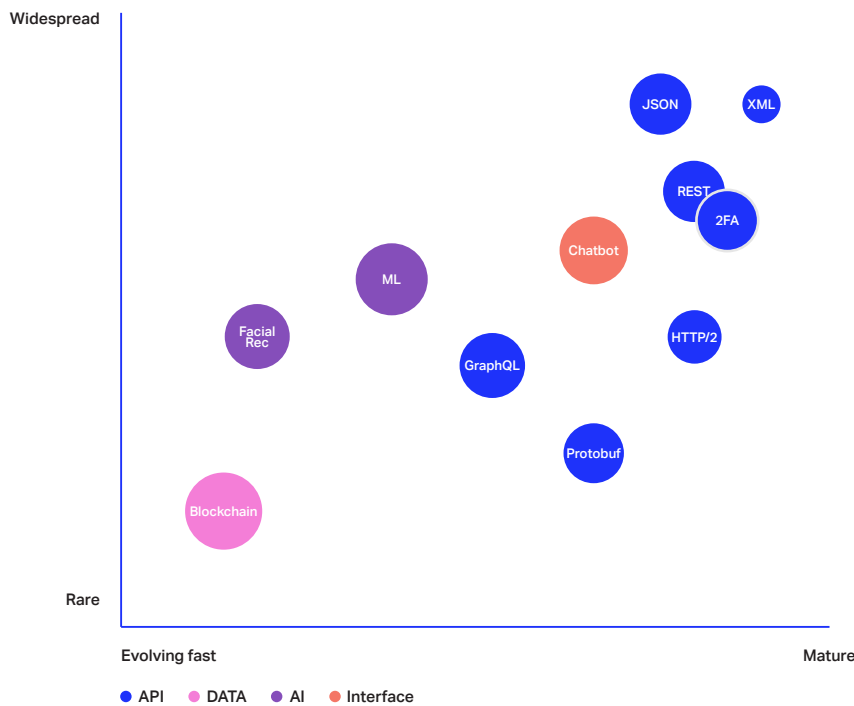
### Industry state of play

In the first iteration of the Radar, many technologies revolve around NDC and ONE Order, i.e. API-related technologies. XML is the data format used for these standards. JSON is another popular data format, more lightweight and most often intended for web applications. Linked to JSON, REST is an API architecture style that, although imperfectly applied sometimes, is ubiquitous today. GraphQL, as a new API specification, completes this picture.

In quite different categories, there are two main subjects that are very popular and that IATA is working on: Machine Learning (in this case encompassing terms such as Artificial Intelligence and Big Data) and Blockchain. The Radar provides an overview of technologies which can be used immediately or that are very promising but still rather new and unproved (see chart below).

The main source of inspiration for the AIR Technology Radar is the Technology Radar published by ThoughtWorks ([thoughtworks.com/radar](http://thoughtworks.com/radar)).

### Technology Radar



- For more information, click on one of the topics:
- GraphQL
  - REST
  - JSON
  - XML
  - Protocol Buffers
  - HTTP/2
  - Two-Factors Authentication
  - Blockchain
  - Machine Learning
  - Facial Recognition
  - Chatbot

[airtechzone.iata.org/radar](http://airtechzone.iata.org/radar)