In the frame of the South Caspian Pipeline project, ILF Consulting Engineers needed information to calculate which route would guarantee the fastest and the most cost-effective settlement for a portion of pipeline located in Georgia and Azerbaijan. Due to the short lead-times of the project, Airbus Defence and Space was tasked to provide data within the best possible timeframe directly at the start of the project. Moreover, to meet the project requirements for the pipeline routing, final product had to reach an accuracy of 1m RMS.

“We would like to express our satisfaction concerning the products received from Airbus Defence and Space – Geo Intelligence. Deliverables were compared with highly precise terrestrial in-situ measurements. For over 80% of the checked areas, all products were far better than the requested specifications, showing an RMS of 50cm to 60cm in the elevation components.”

ILF Consulting Engineers, Austria

Oil and Gas

Leveraging the Airbus Defence and Space Constellation to Assess Best Route for Pipeline Corridor

Challenge
Solution & Results

**1st stage: Delivering off-the-shelf products to meet the time requirements**

Airbus Defence and Space immediately delivered Elevation30 data, off-the-shelf 30m Digital Elevation Models (DEM), and SPOTMaps 2.5m resolution. This rapid delivery allowed ILF to verify the corridor position, analyse and correct the pipeline pre-routing.

**2nd stage: Providing 50cm resolution archive imagery to match budget specifications**

50cm Standard Pléiades orthos from Airbus Defence and Space’s extensive archive were then delivered. This enabled ILF to assess with better accuracy, the routing options and determine the most effective pipeline route, taking into account engineering costs and accessibility for staff.

**3rd stage: Acquiring relevant data to deliver highly accurate final pipeline route**

Pléiades stereo pairs were collected, and Ground Control Points were used in order to create an Elevation1 Digital Terrain Model (DTM). For a more narrow part of the corridor, where higher level of detail was required, Airbus Defence and Space created 3D vector maps to finalise the plans of the pipeline route.

Benefits

- **Time-Efficient Project:** Delivering off-the-shelf products enabled ILF to rapidly start the pre-routing of the pipeline and reduce its delivering time.
- **Cost-Effective Solution:** Using archive imagery to provide high resolution images ensured a control of costs in the second phase of the project.
- **High Accuracy:** Thanks to the VHR products delivered, a precise and consistent pipeline route was produced. The end customer will therefore save money both during the construction phase, and throughout its operation with effective transportation costs.

Solution Description

With its unrivalled satellite constellation, Airbus Defence and Space provides a variety of geographic information to cover any area: wide coverage, fine detail, intensive monitoring, reliable and successful new collections, fresh and extensive archives, premium reactivity.

Solution Applicability

- Seismic planning
- Pipeline and transportation routing
- Infrastructure planning

Organisation involved

ILF Consulting Engineers (ILF) consists of several international and independent engineering and consulting companies. ILF helps demanding customers successfully execute complex industrial and infrastructure projects.

Challenge

Assess the best routing for a pipeline, with strong cost and time constraints.

Solution

Mix of off-the-shelf products, archive data and VHR tasking capabilities to follow the various requirements of the pipeline project.

Results

Highly accurate pipeline routing delivered to the customer on time and within budget constraints.