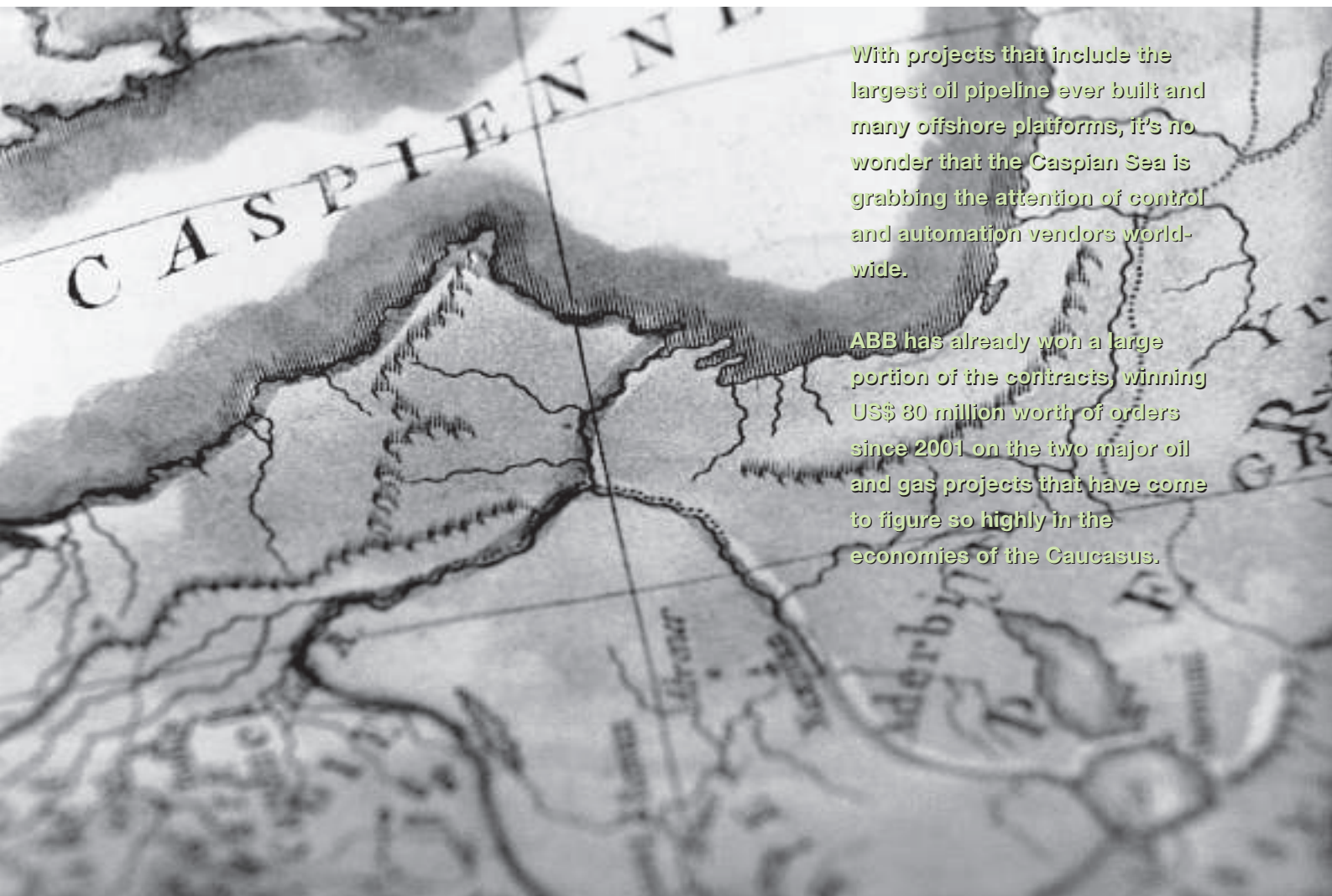




# Creating Currents in the Caucasus

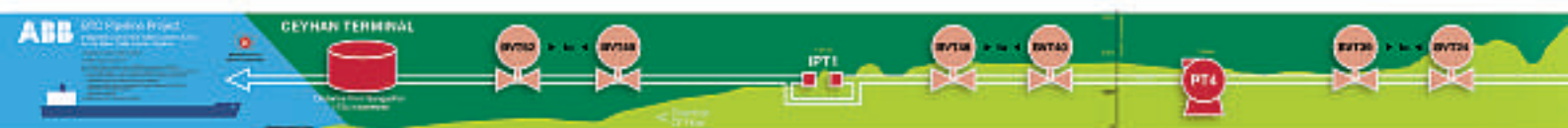
ABB and the Caspian Sea projects

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With projects that include the largest oil pipeline ever built and many offshore platforms, it's no wonder that the Caspian Sea is grabbing the attention of control and automation vendors world-wide.

ABB has already won a large portion of the contracts, winning US\$ 80 million worth of orders since 2001 on the two major oil and gas projects that have come to figure so highly in the economies of the Caucasus.





the Ceyhan marine terminal. Here ABB's AC 800M controllers are used for all of the block valves along the pipeline.

The work includes remote-controlled subsystems to isolate sections of the pipeline for regular inspection and maintenance. The pipeline will be linked over its entire length by a fibre optic telecommunications backbone. Associated field instrumentation includes transmitters and ultrasonic flow metering for the terminal, valve and pumping stations.

'A cross-border technology solution is needed to make sure this extremely complex oil pipeline runs efficiently,' says Nick Laming, Oil and Gas Division. 'Our Industrial IT platform is unique in that it handles both process and safety control in one system, rather than with separate systems, as is done traditionally. This is important to ensure pipeline efficiency, as well as environmental and personal safety.'

Eventually the operators will be able to control the processes from either end of the pipeline. Along the pipeline route will be intermediate pumping stations, intermediate pigging stations, fiscal/custody transfer metering, pressure reduction stations and block valve stations. The crude oil is collected and stored in tanks before being dispatched to tankers via a loading jetty located at Ceyhan. At each location, ABB's Industrial IT technology provides control and monitoring of the plant from both ends of the pipeline and at the various major stations along the pipe.

### Turning on the gas

The other Caspian Sea development is a major gas project for the Shah Deniz

**2** Training expatriate and local engineers at the ABB Training School in Baku.



field, and this also includes an offshore platform, onshore terminal and pipeline. The Shah Deniz condensate field lies in the Caspian Sea, about 100km south of Baku in water depths ranging from 50 m to 500 m. From here a pipeline is being constructed to supply gas to Turkey.

Like the oil project, ABB is supplying an ICSS for the new onshore gas terminal and offshore platform and the associated South Caucasus Pipeline (SCP). The system architecture for both the terminal and the platform installations, while very similar to the ones being delivered for the oil processing facilities, does incorporate some added-value features. The longer timescale for this part of the project has allowed the use of the latest AC800 technology with the introduction of the AC800 HI safety controller and the latest 800xA (extended Automation) software.

### Picking the team

The international nature of the projects is mirrored by the global efforts and resources that ABB has harnessed in order to meet their control and automation needs. The ABB project team, based at St. Neots in the UK, has drawn on skills from ABB companies as far afield as India, Poland and the United States, as

well as training locals in both Turkey and Azerbaijan.

The very size and nature of the Caspian Sea project meant that ABB needed to build up its resources to meet the challenge. Initially, the project team was composed of some 190 engineers and this number was later increased with engineers from Poland and India.

### Local presence

ABB is committed to maintaining supplied equipment for up to 10 years, and crucial to supporting the projects is an ABB office in Baku, the capital of Azerbaijan. Even though ABB has been present in Azerbaijan since 1995 with a representative office, ABB Ltd, UK, registered a branch office in Azerbaijan in June 2003 to comply with the legal requirements of the Caspian Sea project. The team moved to new premises in Baku during March 2004 and its main role is to facilitate and manage the installation and commissioning of ABB's ICSS equipment. The office is also the base for the development of local engineers to support the contract in the future **2**.

ABB believes few other automation vendors could marshal resources on this scale and is rightly proud of all the group has achieved in managing such large and complex projects.

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