

# HummingBird Pro: The End-to-End Monitoring Solution

**CGI**

Experience the commitment®

Improved efficiency for satellite operations with HummingBird Pro – an end-to-end monitoring and control system.

## THE CHALLENGE

Operations constitute over 40% of the running costs of satellite missions. Integrated end-to-end monitoring and control massively reduce the long-term costs through simplification and automation.

## OUR SOLUTION

CGI developed HummingBird Pro to optimize operations, to allow standardized data processing, and to integrate all components and devices into a harmonized system.

## INTEGRATION PLATFORM

HummingBird Pro interacts with the connected systems through their existing interfaces. The platform offers comprehensive monitoring and control functionalities for networks, infrastructure components, standard interfaces, and devices in the ground segment. New drivers can be created, and existing ones can be adapted in order to integrate new hardware and features.

## MONITORING SERVICE DELIVERY AND OPERATIONS

Every role in the customers' organizations has a specific set of responsibilities and needs. Mission and service delivery managers need product-oriented status reports, operators need dataflow-oriented system overviews, and engineers want details of hardware, network, and software.

HummingBird Pro offers dedicated interlinked views, ensuring that each stakeholder receives the information they need when they need it. HummingBird Pro provides user-friendly and highly informative displays. These are designed based on state-of-the-art ergonomics principles, offering seamless and intuitive navigation through the platform's entire operation.

The customization of displays can easily be done at run-time by power users or administrators.

## DASHBOARDS, REPORTS, AND HISTORICAL ANALYSIS

HummingBird Pro provides reports, historical-analysis capabilities, and a powerful dashboard to allow operators to efficiently visualize KPIs extracted from the vast amount of real-time and historical data that is stored in the database.



## FACT SHEET

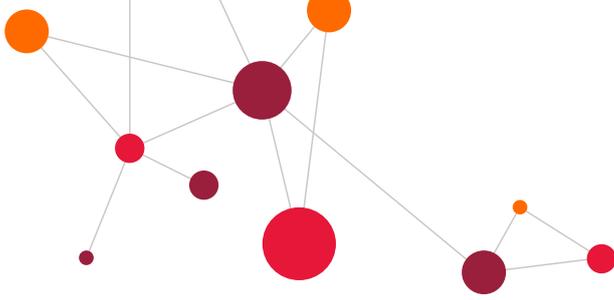
### WHY CGI?

CGI has more than 40 years of experience in consulting and system integration for Earth observation, navigation, satellite monitoring and control, the ground segment, flight dynamics, and data processing.

Our focus is on customer-oriented solutions, in which innovation and new technologies are applied, for example automation of operations for satellite constellations, data processing with artificial intelligence, and modern cloud solutions for Software-as-a-Service.

[de.cgi.com/space](https://de.cgi.com/space)

© 2019 CGI DEUTSCHLAND



## LOGGING AND ALARMS

HummingBird Pro provides a modern log interface, supporting advanced filtering and history browsing.

Alarms are used to notify the users of (potential) problems in the managed systems and are triggered based on out of limits, connection problems, and correlation rules.

## AUTOMATION

The automation engine allows operators to fully automate operational and business procedures, with the aim being to drastically reduce operational costs. Automation scripts can be triggered in different ways: manually, based on events, and based on schedules.

## EXECUTION OF PROCEDURES

HummingBird Pro offers a comprehensive environment in which to execute procedures. Scripts can be designed either through graphical building blocks or using a scripting language. These procedures can then be executed in the background or by querying the users for inputs, or by guiding them through a series of displays where instructions are presented.

## RELIABILITY AND AVAILABILITY

HummingBird Pro's core has been implemented as a powerful distributed architecture, resulting in optimal scalability and availability; multiple instances run in clusters, automatically synchronizing data within them.

The cluster provides hot redundancy for high-availability and mission-critical applications. The system can run both on physical hardware and virtual machines.

## IT SECURITY

The core system provides role-based access control and authentication. Each user has allocated roles and permissions. Detailed audit trailing allows system utilization to be traced.

## MOBILE ACCESS

The displays are optimized for reduced screen sizes. The HTML5 interface allows users to access HummingBird Pro from any browser, with either the standard display or an optimized mobile display.

## ABOUT CGI

CGI is a global service provider for IT and business processes. We were founded in 1976 and have a total of 77,500 employees at 400 locations in 40 countries.

We are on-site for our customers – with strategic IT and business consulting, systems integration, managed IT, business process services, and intellectual property at a top level.

We support our customers in making better use of ongoing investments, while at the same time leveraging new digital technologies and business strategies that enable clients to achieve the best solutions across the entire value chain.

Regarding time and budget, we are regularly awarded due to our strict delivery discipline. To this end, we have consistently achieved more than nine out of ten potential points in customer satisfaction surveys over the past ten years.

For more information please contact us at [info.de@cgi.com](mailto:info.de@cgi.com) or visit us at [www.de.cgi.com/space](http://www.de.cgi.com/space).

[de.cgi.com/space](http://de.cgi.com/space)  
© 2019 CGI DEUTSCHLAND