



go2signals

**TRAINING
COURSES**



GO2SIGNALS IS AN INNOVATIVE SOFTWARE PACKAGE, DESIGNED TO MEET TODAY'S TACTICAL AND STRATEGIC REQUIREMENTS IN THE FIELDS OF RADIO-MONITORING, COMMUNICATIONS INTELLIGENCE AND SIGNALS ANALYSIS AND EXPLOITATION.

GO2SIGNALS – THE ONE FOR ALL RADIO MONITORING TASKS

The go2signals toolset consists of a collection of complementary software applications to search, monitor, process and analyze radio communication from SLF up to SHF frequency range, specialized on HF and V/UHF signals. Its open design concept allows the users to adapt, tailor and automate their monitoring tasks, improving the quality of results, managing the increasing density of signals and subbands in the RF spectrum, and 'staying current' with new requirements.

Employing wideband parallel-processing techniques, our go2signals monitoring application offers powerful capabilities for HF-V/UHF voice/data-signals interception, monitoring and recording even on small sized COTS hardware. It includes automatic detection, modulation classification, modem recognition, deep context decoding, sensor controlling and a database to collect all the results.

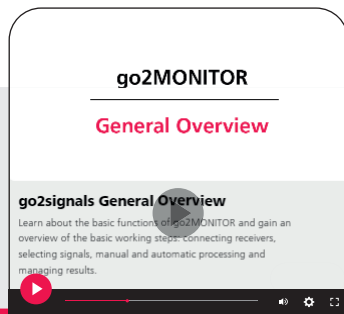
To improve quality of automated results use go2signals toolsets for signal analysis and decoder development, to analyze and adapt demodulator parameters, to develop new customer decoders and protocols and to 'fine-tune' signals monitoring tasks. Even forensic analysis of demodulated data signals at the bitstream level are possible.

GO2SIGNALS MONITORING SUITE VIDEO TRAINING

Online, tutorial-based Introduction to go2signals monitoring suite and its operational usage

In this online video course you will learn the basics of working with go2MONITOR and its available options. We will guide you through the entire signal processing chain, from initial installation to results management. We explain how to set up the UI and the Workplace and what technical requirements need to be met. You will be shown how to search and classify emissions in the wideband channel and how to classify, demodulate and decode multiple signals simultaneously in the narrowband channel. Learn how to display signal content and associated parameters and how to analyze, structure, filter and export signal results. Further tutorials show how to work in manual mode and how to easily automate signal processing with missions and tasks.

At the end of the course, open questions can be asked in a 3-hour online session and answered live by one of our signal experts from the support team.



go2signals
VIDEO TRAINING

ORDER-NUMBER
TRN-GO2SIG-VIDEO

COURSE DURATION:

Over 2.5 hours of professional training tutorials. 3 hours of online FAQ support during the activation period. Activation of 5 user accounts for the online video platform for a period of 12 months. This collection is constantly being expanded.

DOCUMENTATION:

In addition to the videos, several case studies and product documentation are also available in the user accounts

TRAINING SYSTEMS:

Users need internet connection to access the video platform on our website. Each user will have their own password-protected account. This requires registration on the website.

COURSE LOCATION:

Online video– Internet access required.

VIDEO LANGUAGE:

English - At least CEFR level B1 necessary, level B2 or higher strongly recommended

COURSE CONTENT

- Overview go2MONITOR
- Installation
- First steps with go2MONITOR
- go2MONITOR manual mode
- go2MONITOR automatic mode
- ResultViewer

TARGET AUDIENCE

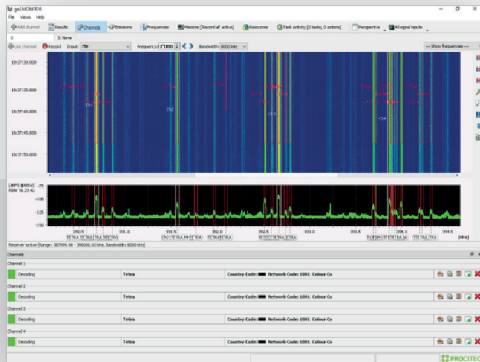
- Spectrum Monitoring and Policing Operatives
- Communications Surveillance and Intelligence System Operators

GO2MONITOR STANDARD OPERATOR TRAINING

Automatic Detection, Classification, Recognition, Decoding and Reporting of Communications Signals using Wideband Multichannel techniques

Our go2MONITOR Standard Operator Training Course captures the go2MONITOR host-system's complete signal flow from connected receiver or sensor to the content of the processed radio signals. We place particular emphasis on the efficient and task-oriented application of the available go2MONITOR features and resources to ensure rapid assimilation of information and successful application of the presented instructions by the Students.

This course is also available as an online training. For more details please contact sales@procitec.de.



COURSE CONTENT

- Introduction to go2MONITOR operational usage
- Host Receiver or Sensor control
- Wideband spectrum analysis and classification of signals within the RF spectrum
- Narrowband multichannel signal processing (autoprocessing signals, classification, demodulation, decoding)
- Display of results (temporal, spectral, merger of raw data and content output)
- Transfer from manual to automatic mode, creation of automated tasks (where applicable)
- Lectures and practical exercises

TARGET AUDIENCE

- Spectrum Monitoring and Policing Operatives
- Communications Surveillance and Intelligence System Operators



Entry Criteria: Basic understanding of the RF Spectrum and signaling techniques

ORDER-NUMBER
TRN-GO2MON

COURSE DURATION:

3 days / 24 training hours for
a maximum of 8 Students

DOCUMENTATION:

Electronic training documentation
(English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC if training location is PROCITEC HQ; in all other cases it has to be provided by the customer

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany or
customer-location (additional logistics costs
will apply if the Training Course is delivered
outside of the European Economic Area)

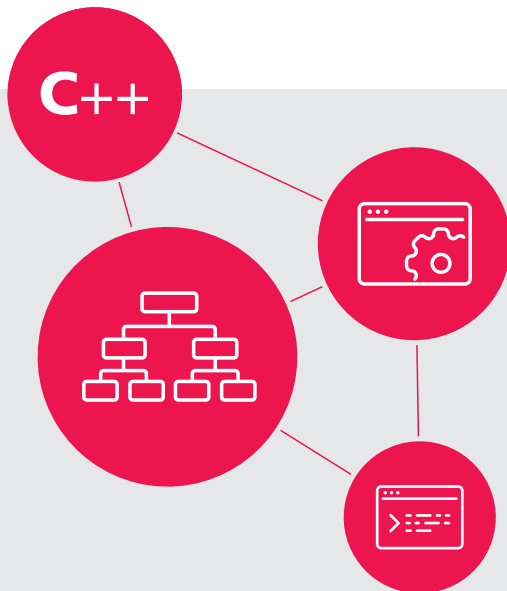
TRAINING LANGUAGE:

German; English - At least CEFR
level B1 necessary, level B2 or higher
strongly recommended

GO2MONITOR INTEGRATOR TRAINING

Efficient Systems Integration of go2MONITOR for Software Engineers

This training course focuses on the integration of go2MONITOR components into the customer's systems and applications. The course provides a comprehensive introduction to the protocols, standards and vital considerations in designing their own applications and toolsets which uses key features of the go2MONITOR components. This course is designed for Design Teams who have an interest in the complete or partial integration of go2MONITOR capabilities into their systems, and wish to improve their ability to successfully commission and maintain their overall system solutions.



COURSE CONTENT

- Functionalities of the go2MONITOR application
- Information flow inside software
- Remote control of the product components
- Interface Control Document (ICD)
- Input and output data formats

TARGET AUDIENCE

- C++ Developers



Entry Criteria: Experience in C++ (incl. Network, Threads, OOP). Examples will be coded with Microsoft Visual Studio C++.

ORDER-NUMBER
TRN-GO2MON-ICD

COURSE DURATION:

2 days / 16 training hours for a maximum of 2 Students, with 10 additional hours email-support via service@procitec.de included

DOCUMENTATION:

Electronic training documentation (English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany

TRAINING LANGUAGE:

German; English - At least CEFR level B1 necessary, level B2 or higher strongly recommended



go2signals

NEW: GO2SIGNALS ANALYSIS SUITE TRAININGS

With the launch of the new go2signals Analysis Suite, we have updated our training program to reflect the software's expanded capabilities and practical applications. The revised training portfolio now comprises three distinct courses, each tailored to a specific target audience, subject focus, and duration. The courses are designed as standalone alternatives and are not intended to be booked in parallel.

Signal Analysis focuses on the analysis of unknown modulated signals and is designed for signals analysts.

Advanced Modem Development covers the complete modem development cycle, from the analysis of unknown signals to the creation of fully parameterized demodulators and advanced pyDDL decoders. It is intended for technical staff who need to develop or extend complete modems.

Basic Modem Development offers a shorter, practice-oriented introduction to creating simple demodulators and pyDDL-based detectors. It is suitable for teams with prior knowledge or for users whose main objective is to implement basic detectors.

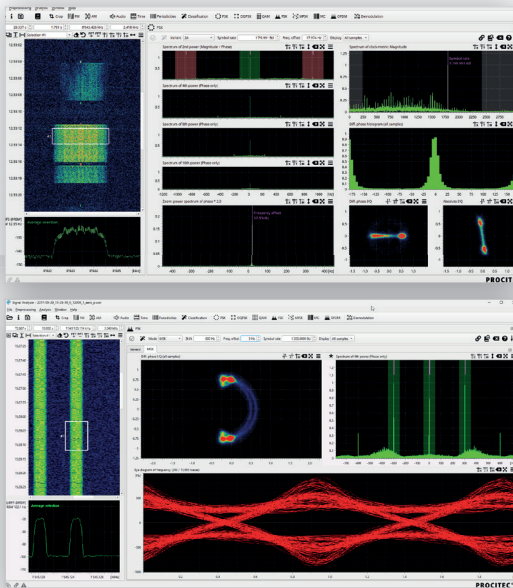
The exact scope of each course can be adapted to the participants' prior knowledge, operational requirements, and intended use cases.

GO2SIGNALS ANALYSIS SUITE

SIGNAL ANALYSIS TRAINING

Analysis of modulation characteristics of communication signals

The course focuses on developing participants' knowledge of signal analysis techniques and procedures using go2signal-analyzer. Throughout the training, participants build their practical skills through realistic, hands-on exercises using live signal recordings provided by PROCITEC and, optionally, recordings from the participants' own user units. Upon completion of the course, participants will understand the features and capabilities of the go2signal-analyzer software and will have acquired the skills required to analyze unknown modulated signals.



ORDER-NUMBER
TRN-SIG-ANALYZE

COURSE CONTENT

- Advanced operation of go2signal-analyzer
- Fundamentals of digital signal modulation
- Rapid Pre-Classification of unknown signals
- Analysis of FSK, MFSK, PSK, MSK, OQPSK, QAM and OFDM signals
- Signal Simulation Tool (go2generate)
- Lectures include many practical hands-on exercises

TARGET AUDIENCE

Signals Analysts

COURSE DURATION:

3 days / 24 training hours for a maximum of 5 Students

DOCUMENTATION:

Electronic training documentation (English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany

TRAINING LANGUAGE:

German; English - At least CEFR level B1 necessary, level B2 or higher strongly recommended



Entry Criteria: Good understanding of the RF-Spectrum and signaling techniques

GO2SIGNALS ANALYSIS SUITE

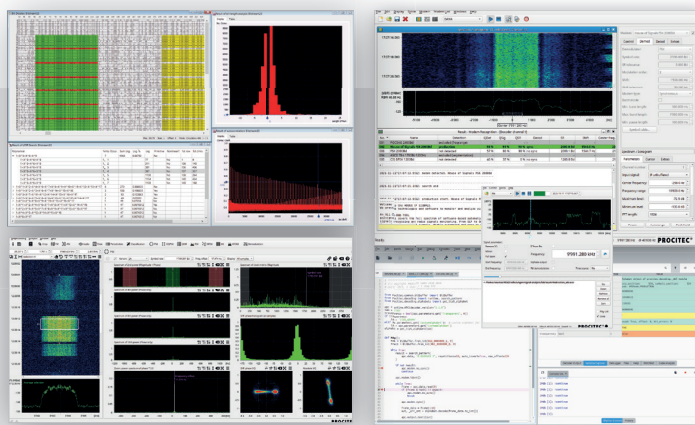
ADVANCED MODEM DEVELOPMENT TRAINING

Complete modem development cycle from an unknown signal to a full modem with parametrized demodulator and python based (PYDDL) decoder

This training course provides participants with an in-depth introduction to all applications within the go2signals Analysis Suite, their capabilities, and practical use.

Participants learn the fundamentals of digital signal modulation, encoding methods, and a range of signal analysis techniques for analysing unknown signals. They then demodulate these signals and apply bit analysis techniques. Based on the results, participants create decoders using the Python-based Decoder Description Language (pyDDL), including detection, synchronization, error correction, and output generation. The course culminates in the development of new modems, which are then tested in an automated monitoring environment.

Upon completion of the course, participants will be able to identify the modulation characteristics of unknown signals, perform bit analysis, and create comprehensive decoders and modems for use in go2MONITOR.



ORDER-NUMBER
TRN-MDEV-ADV

COURSE CONTENT

- Advanced operation of go2signal-analyzer, go2modem-studio (Modem Lab & Decoder Development) and go2ANALYSE
- Fundamentals of digital signal modulation and coding protocols
- Rapid Pre-Classification of unknown signals
- Analysis of FSK, MFSK, PSK, MSK, OQPSK, QAM and OFDM signals
- Signal Simulation Tool (go2generate)
- Setting up universal demodulators
- Overview of various bit analysis techniques
- Writing Simple Decoder Programs
- Combining demodulator and decoder to a modem
- Special Aspects of Automatic Production
- Methods for Error Detection and Correction
- Integration of Customer Packages or Libraries
- Lectures include many practical hands-on exercises

TARGET AUDIENCE

Technical staff involved in analyzing unknown signals and writing and extending decoders

COURSE DURATION:

8 days / 64 training hours for a maximum of 8 Students

DOCUMENTATION:

Electronic training documentation (English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany

TRAINING LANGUAGE:

German; English - At least CEFR level B1 necessary, level B2 or higher strongly recommended



Entry Criteria: Experience in the Python programming language; it is strongly recommended that all Students per-course have a similar start-state

GO2SIGNALS ANALYSIS SUITE

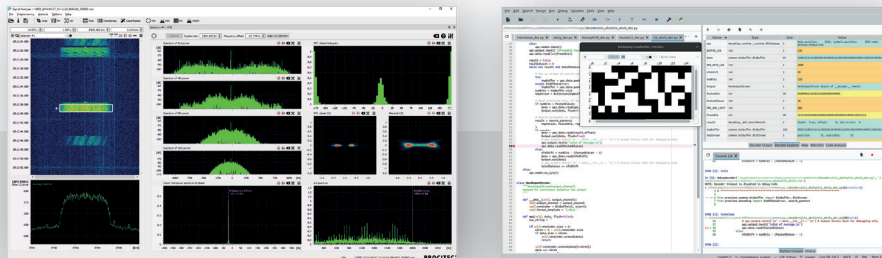
BASIC MODEM DEVELOPMENT TRAINING

From an unknown signal to a modem with a parametrized demodulators and a simple python-based (PYDDL) decoder

This training course familiarizes participants with the applications within the go2signals Analysis Suite, their capabilities, and their practical use.

Participants are introduced to the fundamentals of digital signal modulation and coding. Working with unknown signals, they learn how to apply signal analysis techniques to demodulate the signals and perform basic bit analysis. Based on their findings, participants create simple decoders using the Python-based Decoder Description Language (pyDDL). These basic detectors are then tested in an automated monitoring environment.

Upon completion of the course, participants will be able to identify the modulation characteristics of unknown signals and create simple decoders for use as detectors in go2MONITOR.



COURSE CONTENT

- Introduction to go2signal-analyzer, go2modem-studio (Modem Lab & Decoder Development) and go2ANALYSE
- Fundamentals of digital signal modulation and coding
- Rapid Pre-Classification of unknown signals
- Analysis of FSK and PSK signals
- Setting up universal demodulators
- Writing Simple Decoder Programs for detection
- Special Aspects of Automatic Production
- Lectures include many practical hands-on exercises

TARGET AUDIENCE

Technical staff involved in pre-analysis of unknown signals and writing basic detectors.



Entry Criteria: Basic experience in the Python programming language

ORDER-NUMBER
TRN-MDEV-BASIC

COURSE DURATION:

4 days / 32 training hours for a maximum of 8 Students

DOCUMENTATION:

Electronic training documentation (English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany

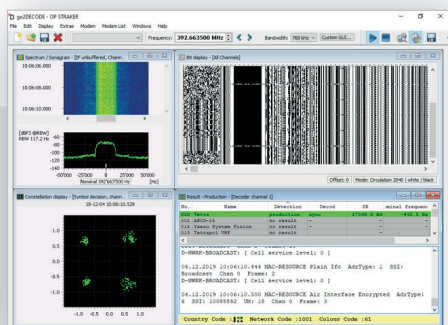
TRAINING LANGUAGE:

German; English - At least CEFR level B1 necessary, level B2 or higher strongly recommended

GO2DECODE STANDARD OPERATOR TRAINING

Automatic and Manual Recognition, Analysis and Decoding of Communications Signals

The go2DECODE Standard Operator Training course familiarizes the Students with all go2DECODE functions, and their practical use. The course focuses development on the Students' knowledge of signals analysis techniques and procedures using go2DECODE. Configuration and parameter settings of demodulators and decoders for automatic detection of new modems are explored in-detail. During training delivery, the Students' skillsets are developed using practical 'real world' exercises employing live signal recordings sourced by PROCITEC and, optionally, the Students' User-Units. Upon completion of training, Students will understand the functionalities and capabilities of go2DECODE, and will have acquired skills in the analysis of modulated signals and creating effective modems for manual or automatic signal recognition.



This course is also available as an online training. For more details please contact sales@procitec.de.

ORDER-NUMBER
TRN-GO2DEC

COURSE CONTENT

- Operation of go2DECODE
- Fundamentals of digital signal modulation
- Signal inputs and adjustments (DANA)
- Signal Simulation Tool (go2generate)
- Analysis of FSK, MFSK and PSK Signals
- Setting Up Demodulators and analysis of Demodulation Results
- Setting Up Modems and Modem Lists
- Automatic Production and Signal Recording
- Brief introduction to Decoder Description Language (pyDDL)

TARGET AUDIENCE

- Signals Analysts
- Technical staff involved in writing, modifying and editing signal-decoders.

COURSE DURATION:

4 days / 32 training hours for a maximum of 8 Students

DOCUMENTATION:

Electronic training documentation (English)

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC

COURSE LOCATION:

PROCITEC HQ, Pforzheim, Germany

TRAINING LANGUAGE:

German; English - At least CEFR level B1 necessary, level B2 or higher strongly recommended



Entry Criteria: Good understanding of the RF Spectrum and signaling techniques



GO2SIGNALS TRAINING SUPPLEMENTARY NOTES

GO2SIGNALS CUSTOM TRAINING PACKAGES

PROCITEC offers two dedicated tactical training courses for go2signals tactical user-groups (see page 12-13). In addition, the PROCITEC Training Team is prepared to design, develop & deliver further customized Training Packages to suit the specific operational needs of our go2signals strategic and tactical user-groups.

To fully align the Customer's required Training Objectives and Learning Outcomes with our custom training solutions, these Training Packages are developed upon completion of a Training Needs Analysis initiative which is undertaken by members of the PROCITEC Team in consultation with appropriate members of the Customer's End-User Groups. Dependent upon the identified training need, our resultant go2signals Custom Training Courses are delivered over '1 to many days' duration.

Please contact PROCITEC for further information concerning our go2signals Custom Training Packages.

GO2MONITOR IN TACTICAL OPERATIONS

Multichannel Exploitation of Communications Signals For Situational Awareness

Exploitation of communications signals using go2MONITOR to derive tactical Indications and Warnings for Situational Awareness in the land, littoral and maritime space.



COURSE CONTENT

- go2MONITOR running on low-SWaP Laptop or Portable PCs with low display resolution
- Terminologies and Signals: Student refresh for tactical context
- Radio-communications network topologies (civil / military / paramilitary)
- Data modulation techniques HF-UHF (tactical focus)
- V/UHF Signals Of Interest (tactical focus)
- Line-Of-Sight [LOS] / point-to-point / multipoint / direct and trunked networks
- HF Signals Of Interest (tactical focus – short-range groundwave and 'J' Near Vertical Incidence Skywave' ['NVIS'] propagation)
- Operational focus – automatic signals detection, classification, recognition, decoding and reporting in real-time
- Operational scenarios based upon Land, Littoral and Maritime Tactical Use-Cases

TARGET AUDIENCE

- For new and experienced Land Electronic Warfare (Land-EW) and Maritime Communications Electronic (Warfare) Support Measures (Maritime-CESM) Operators.

ORDER-NUMBER
TRN-GO2MON-TAC

COURSE DURATION:

4 days / 32 training hours for a maximum of 8 Students

DOCUMENTATION:

Student-notes from supporting visual-aids and live/recorded scenarios;

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC if training location is PROCITEC HQ; in all other cases it has to be provided by the customer

COURSE LOCATION:

PROCITEC HQ, Pforzheim, or customer-location (additional logistics costs will apply if the Training Course is delivered outside of the European Economic Area)

TRAINING LANGUAGE:

English – Students require at least CEFR level B1; level B2 or higher recommended (option: consecutive interpretation is available as required)



Entry Criteria: A basic knowledge of the RF spectrum, signaling techniques and Tactical Operations

GO2DECODE IN TACTICAL OPERATIONS

Exploitation of Communications Signals For Situational Awareness

Automatic and manual recognition, analysis and decoding of communications signals using go2DECODE to derive tactical Indications and Warnings for Situational Awareness in the land, littoral and maritime space.



COURSE CONTENT

- go2DECODE running on low-SWaP Laptop or Portable PCs with low display resolution
- Terminologies and Signals: Student refresh for tactical context
- Radio-communications network topologies (civil / military / paramilitary)
- Data modulation techniques HF-UHF (tactical focus)
- V/UHF Signals Of Interest (tactical focus – Line-Of-Sight [LOS] / point-to-point /multipoint / direct and trunked networks)
- HF Signals Of Interest (tactical focus – short-range groundwave and ‘]Near Vertical Incidence Skywave’ [‘NVIS’] propagation)
- Operational focus – automatic and manual signals recognition, analysis, decoding and reporting in real-time
- Operational scenarios based upon Land, Littoral and Maritime Tactical Use-Cases

TARGET AUDIENCE

- Military and Security Communications Surveillance Operators using light / mobile sensor systems with integrated go2DECODE capabilities

ORDER-NUMBER
TRN-GO2DEC-TAC

COURSE DURATION:

5 days / 40 training hours for a maximum of 8 Students

DOCUMENTATION:

Student-notes from supporting visual-aids and live/recorded scenarios;

TRAINING SYSTEMS:

Necessary hardware is provided by PROCITEC if training location is PROCITEC HQ; in all other cases it has to be provided by the customer

COURSE LOCATION:

PROCITEC HQ, Pforzheim, or customer-location (additional logistics costs will apply if the Training Course is delivered outside of the European Economic Area)

TRAINING LANGUAGE:

English – Students require at least CEFR level B1; level B2 or higher recommended (option: consecutive interpretation is available as required)



Entry Criteria: A basic knowledge of the RF spectrum, signaling techniques and Tactical Operations

GO2SIGNALS TRAINING SUPPLEMENTARY NOTES

GO2SIGNALS CUSTOM TRAINING PACKAGES

The PROCITEC Training Team designs, develops & delivers bespoke, customized Training Packages to suit the specific operational needs of our go2signals strategic and tactical user-groups. To fully align the Customer's required Training Objectives and Learning Outcomes with our custom training solutions, these Training Packages are developed upon completion of a Training Needs Analysis initiative which is undertaken by members of the PROCITEC Team in consultation with appropriate members of the Customer's End-User Groups. Dependent upon the identified training need, our resultant go2signals Custom Training Courses are delivered over '1 to many days' duration.

Please contact PROCITEC for further information concerning our go2signals Custom Training Packages.



PROCITEC®

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