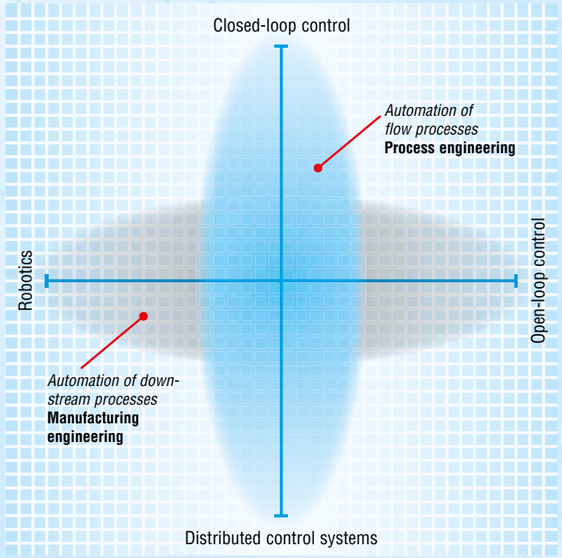
INTRODUCTION TO CHAPTER “AUTOMATION”

Today, automation plays a key role in every technical field, and as such is always a core element of technical training. However, there is no single unified understanding of the concept of automation – it has many different directions and embodiments.

This is our understanding of automation



Different weighting of automation elements.

Most teaching and training systems deal almost exclusively with applications from the fields of manufacturing engineering and handling systems. We at GUNT see things differently!
GUNT is more strongly committed to the vertical area highlighted in blue, oriented more towards process engineering applications, with the emphasis on closed-loop control and distributed control systems.

Training systems that have been tried and tested in practice, derived from university laboratories and lectures.

Our academic partner in automation:

HOCHSCHULE harz
Hochschule für angewandte Wissenschaften (FH)
University of Applied Studies and Research
Fachbereich Automatisierung und Informatik
Faculty of Automation and Computer Sciences

This co-operation agreement combines basic research and application to create intelligent, tried and tested training systems.

STRUCTURES

COMPUTERS

COMPONENTS

Sensors	closed-loop control
Actuators	open-loop control

MODELS

PROGRAMMES

COMMUNICATION

MAN-MACHINE SYSTEMS

APPLICATIONS

CNC	Robotics
AI systems	Recipe control

PROJECTS

Elements of automation
Light-coloured: Integration techniques
Dark-coloured: Basic techniques
Definition: Prof. Dr.-Ing. Reinhard Langmann

We use this definition to establish a structure and order to the wide diversity of our teaching and training systems.

Although the GUNT teaching and training systems for automation primarily address the basic techniques shown here, the integration techniques are also always incorporated. This link is unbreakable.

Our well ordered and clearly structured accompanying didactic material will help you to integrate the models and training systems effectively into your teaching strategy.

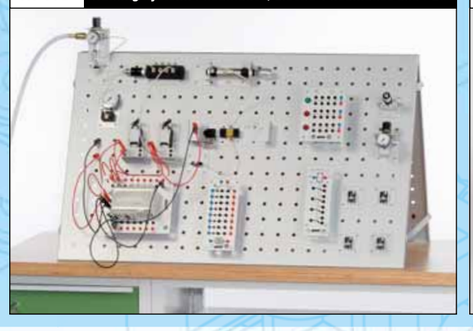
Basic techniques (not dependent on process type)

IA 130 *PLC Module*

IA 210 *PLC Application: Materials Handling Process*

RT 350 *Operation of Industrial Controllers*

RT 770 *Training System: Pneumatics, Electro-Pneumatics and PLC*



RT 010 *Training System: Level Control, HSI*

RT 800 *PLC Application: Mixing Process*

Basic techniques (dependent on process type)

IA 520 *Computer Integrated Manufacturing and Handling System*

RT 122 *Fuzzy Control: Inverted Pendulum*

RT 121 *Fuzzy Control: Ball-on-Beam*