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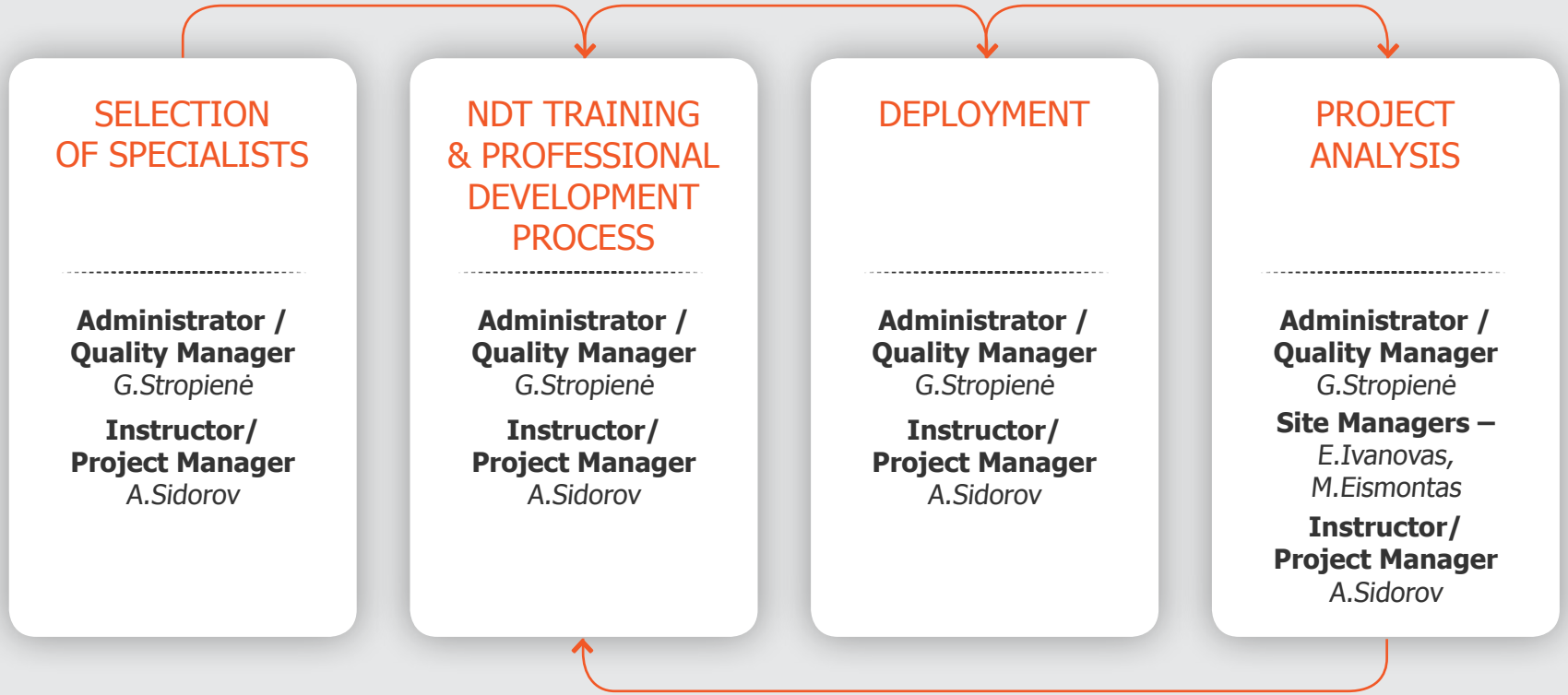
GRIDIN'S GROUP

NON-DESTRUCTIVE TESTING TRAINING AND PROFESSIONAL DEVELOPMENT PROCESS

NON-DESTRUCTIVE TESTING (NDT) TRAINING AND PROFESSIONAL DEVELOPMENT PROCESS CHART

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NON-DESTRUCTIVE TESTING TRAINING AND PROFESSIONAL DEVELOPMENT PROCESS



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SELECTION OF SPECIALISTS

- Check of available qualification documents;
- Professional skills test;
- English language proficiency test.







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NDT TRAINING AND PROFESSIONAL DEVELOPMENT PROCESS

General introduction:

a) Basics of quality system;
b) Metallurgy;
c) Metal welding;
d) Classification of defects in materials;
e) Introduction to NDT;
f) Requirements for NDT Specialists.

Theory and practice of NDT methods:

- PT (Liquid Penetrant Testing)
- MT (Magnetic Particle Testing)
- VT (Visual Testing)
- ET (Eddy Current Testing)
- UT (Ultrasonic Testing)





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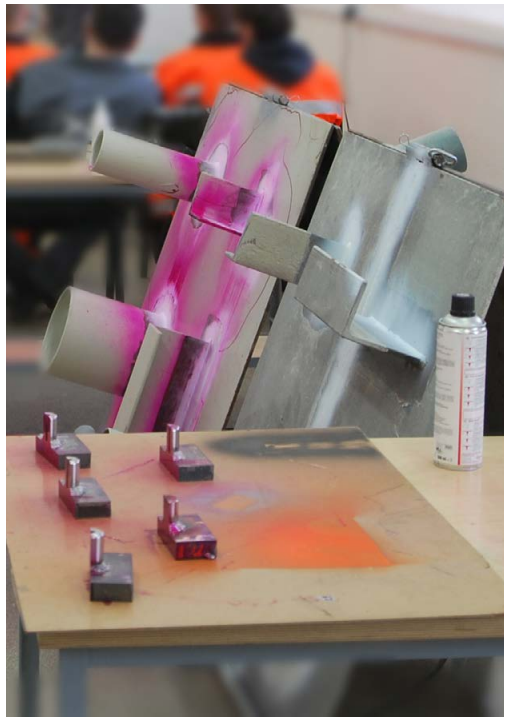
PT - LIQUID PENETRANT TESTING

Introduction to the PT testing method:

Theoretical part – use of method to detect surface and sub-surface defects in metal and non-metal materials.

Practical part – method demonstration on testing pieces. Configuring sensitivity of NDT equipment.







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MT – MAGNETIC PARTICLE TESTING

Introduction to the MT testing method:

Theoretical part – introduction to the theory of magnetism. Examination of ferromagnetic materials by using various methods and procedures.

Practical part – demonstration of various magnetization methods, use of "dry" and "wet" testing methods.







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VT – VISUAL TESTING

Introduction to the VT testing method:

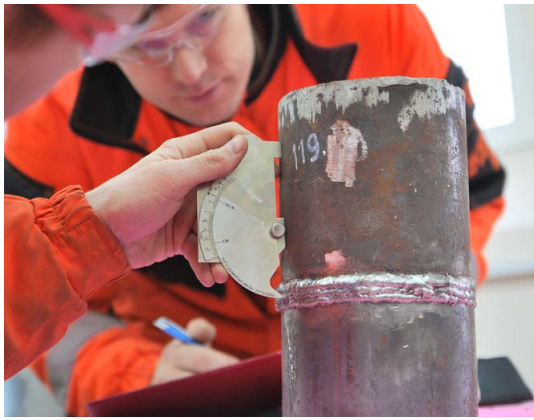
Theoretical part – use of method to to detect surface defects in welded seams and materials. Introduction to VT inspection methods – with special visual devices (indirect) and without them (direct visual testing).

Practical part – practical application of VT method by using:

- Measuring ruler;
- Caliper;
- Micrometer;
- Measuring tape;
- Indicators;
- Magnifying glass;
- Calibers;
- Gauges;
- Borescopes and videoscopes.









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ET - EDDY-CURRENT TESTING

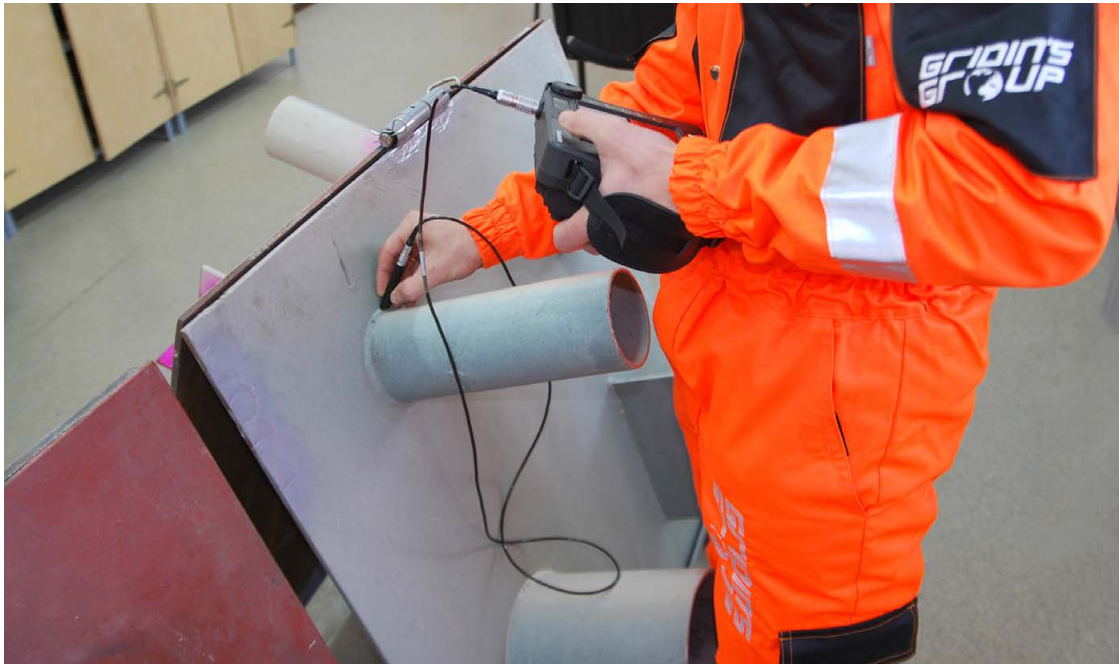
Introduction to the PT testing method:

Theoretical part – use of method toto detect surface and sub-surface defects. Introduction to the theory and basic principles of surface scanning, including evaluation of test results.

Practical part – calibration of equipment and demonstration of different methods on testing pieces.







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UT - ULTRASONIC TESTING

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Introduction to the UT testing method:

Theoretical part – use of method to detect defects within different materials. Induction into ultrasonic theory for inspection of different parts in welded constructions; overview of new methods. Introduction to ultrasonic testing equipment and display formats; selection of probes. Introduction to different UT testing methods:

- Automated Ultrasonic Testing
- Manual Ultrasonic Testing
- Ultrasonic Thickness Measurement

Practical part – configuration and calibration of equipment. Inspection of welded seams. Measuring thickness of metal and non-metal objects.





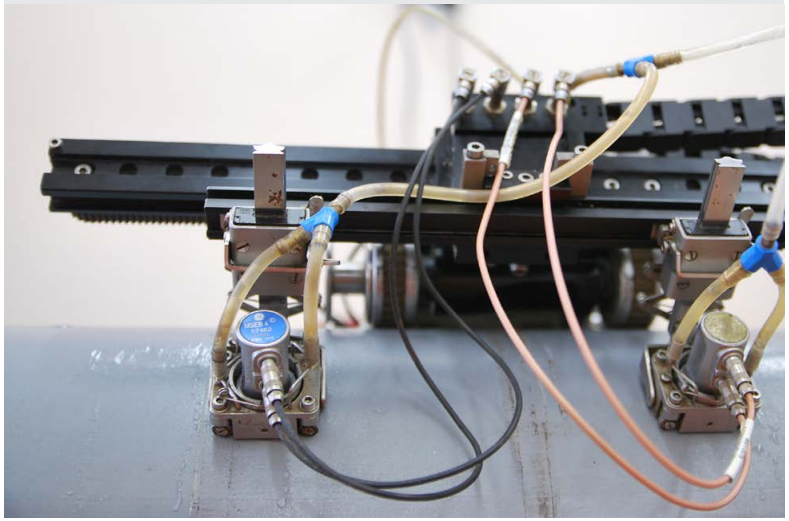
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PRACTICAL AND THEORETICAL EXAMINATION



After completion of the training program a specialist must know:

1. To use equipment Operation Manuals.
2. To apply international standards and technology instructions.
3. To use, set-up and calibrate equipment.
4. To find defects, draw them on sketches and fill in protocols.
5. To use appropriate PPE, know their purposes, maintenance and inspection requirements; occupational health and safety requirements.



NON-DESTRUCTIVE TESTING TRAINING AND PROFESSIONAL DEVELOPMENT PROCESS

PRACTICAL TRAINING:

No.	METHOD	LEVEL	Number of Specimens
1.	PT (Liquid Penetrant Testing)	2	2
2.	MT (Magnetic Particle Testing)	2	3
3.	VT (Visual Testing)	2	3
4.	ET (Eddy-Current Testing)	2	2
5.	UT (Ultrasonic Testing)	2	2

THEORETICAL TRAINING:

PART	SUBJECT	Number of questions
A	Materials, manufacuring, processes and defects	25
B	Knowledge of standards	20
C	Knowledge of methods	60

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DEPLOYMENT

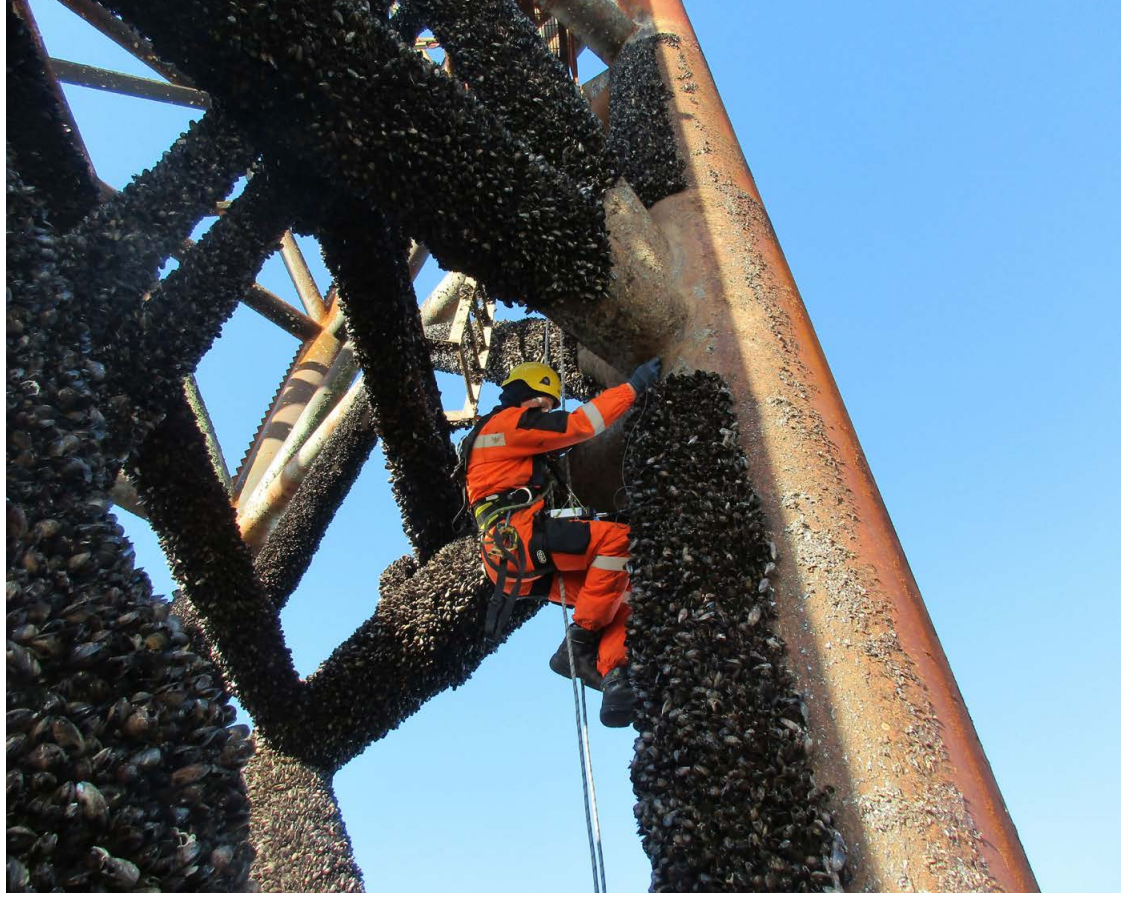
Safety Briefing –
occupational safety requirements on site.

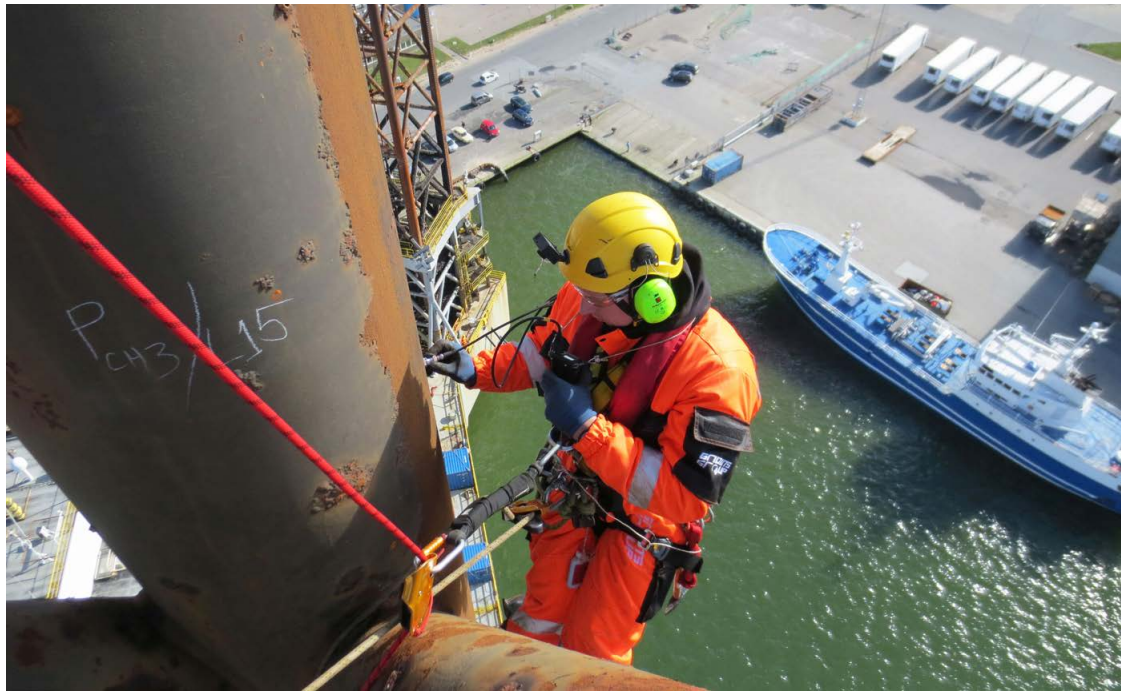
Quality and NDT Inspection Requirements –
specific project requirements, technical characteristics, familiarization with regulatory and technical documentation on site.

Tangible Assets Requirements –
equipment Transfer & Acceptance certificates, tangible assets control and management.

Project Manager Briefing –
familiarization with a site to be inspected, possible changes and specifics of a project, general rules and requirements for communication.

HR Department Briefing –
distribution of PPE, travel documents and means of communication, familiarization with Company values.

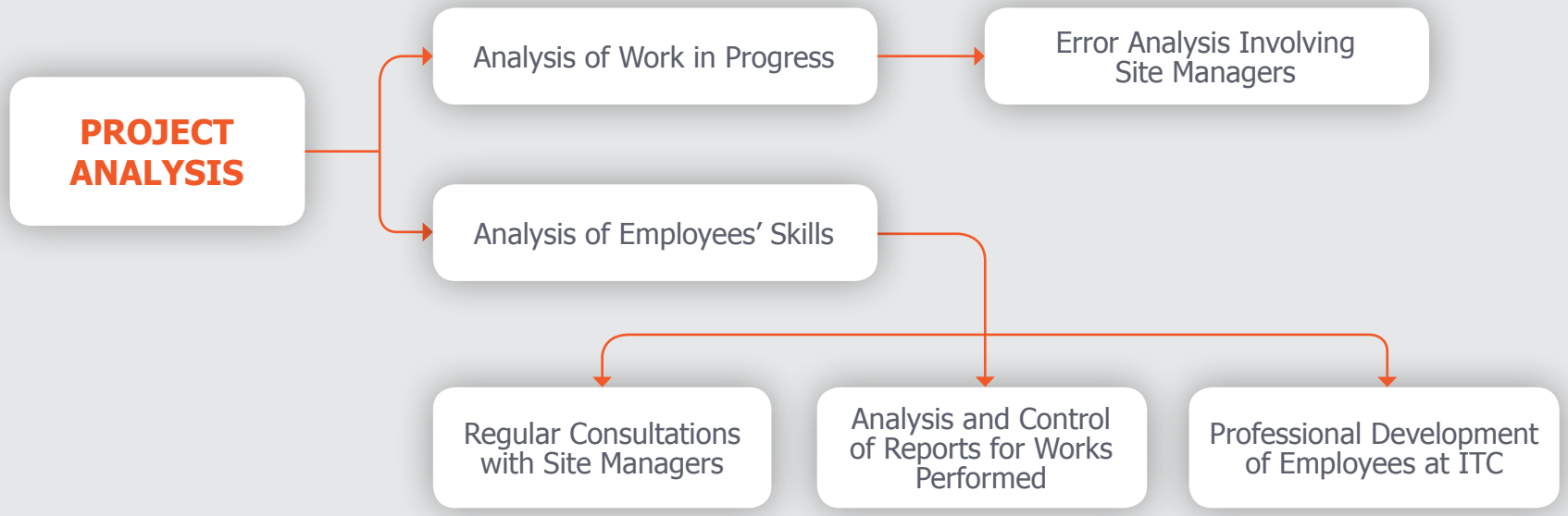




PROJECT ANALYSIS CHART

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