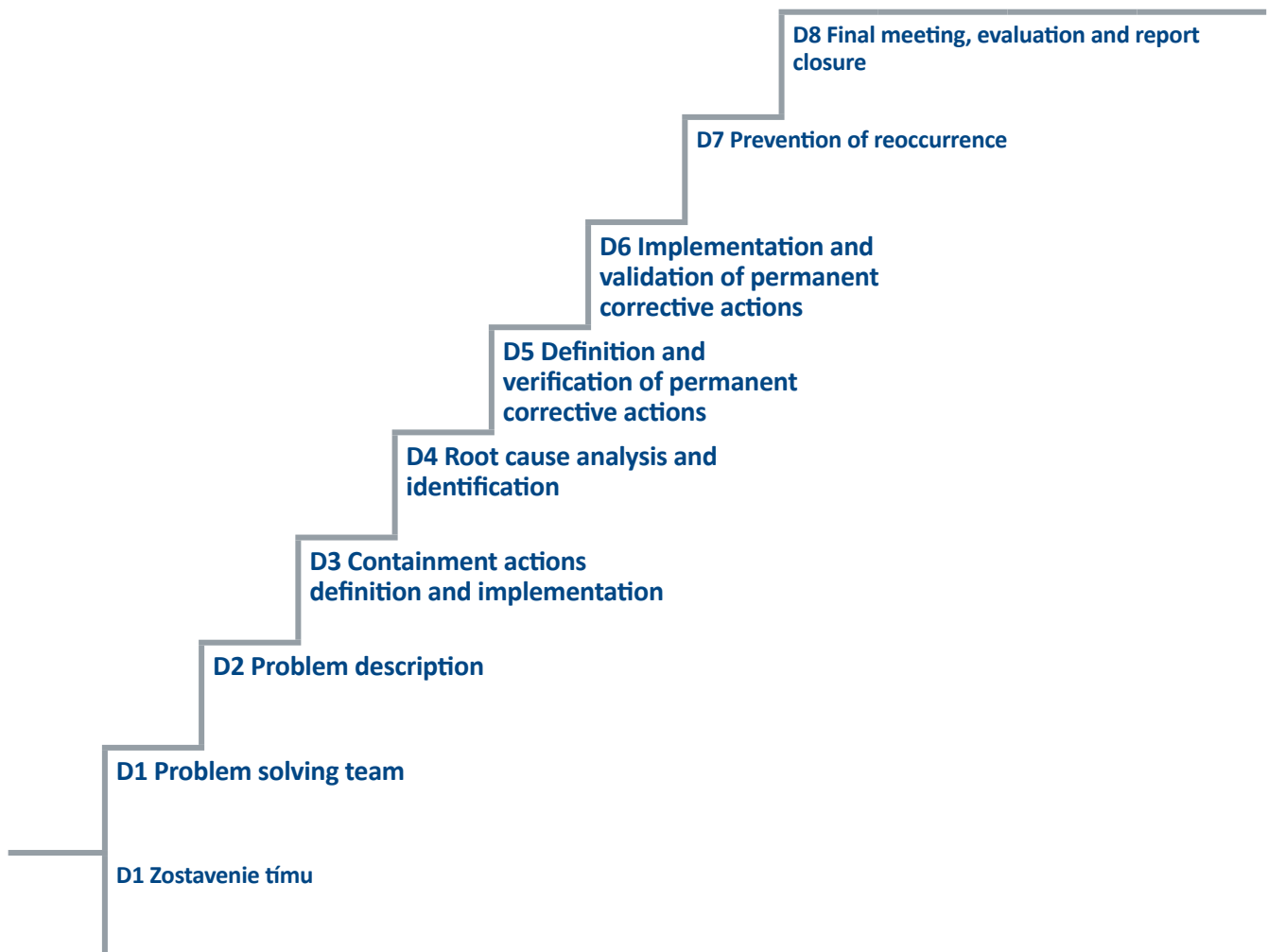# 8D PROBLEM SOLVING METHOD

TATRAVAGÓNKA POPRAD

8D
REPORT

✓ **Eight Disciplines Problem Solving, 8D-Report**, jis a method used to for improving quality in the production process and solving various problems, but most often for customer complaints management.

✓ It is a structured problem-solving process that, in case of when properly implemented, helps to resolve the problem in a timely and complete manner.

✓ It ensures that problem solving, decision making, and planning has been based on available data and that the real problem is properly addressed (not just its consequences, which cover the real problem).

8 STEPS

D8 Final meeting, evaluation and report closure

D7 Prevention of reoccurrence

D6 Implementation and validation of permanent corrective actions

D5 Definition and verification of permanent corrective actions

D4 Root cause analysis and identification

D3 Containment actions definition and implementation

D2 Problem description

D1 Problem solving team

D1 Zostavenie tímu

D1
PROBLEM SOLVING TEAM

√ Define terms for:

    √ D1-D3 – Preliminary opinion: complete data, take immediate action to protect customer

    √ D4-D6 – Final opinion: determining the root causes and implementing permanent corrective actions

    √ D7-D8 – Claim closure: verification and prevention

√ Define the team and provide contact data:

Sponsor – member of management (resources, active support)

Team leader – (methodology, communication, organization of meetings)

Members – (professional competences)

- multifunctional team of experts (3 to 6)

- they understand the issue of the solved product or process

- they have the authority to solve the problem, they have experience

- at least one of the members is an expert in quality tools

1. Tím • Team • Team:		
Meno • Name • Name	**Útvar** • Department • Abteilung	**Telefón** • Telephone • Telefon

D2
PROBLEM DESCRIPTION

✓ To understand the problem:

   ✓ Convert the detected deviation to the definition of a specific problem (drawings, standards, order requiremerents...)

   ✓ Confirm the existence of the problem through data and facts

   ✓ Answers on related questions – quality tools for problem description (5W2H, Is/Is not, Ishikawa)

   ✓ **Attachment to D2** – photo documentation of non-conformities, inspection report, assembly test report, brake test report...

✓ Connect the view of the customer (who has a problem) and the supplier (solver).

2. Opis problému • Describe the Problem • Problembesschreibung

D3
CONTAINMENT ACTIONS DEFINITION AND IMPLEMENTATION

✓ Identification and proposal of containment actions:
- ✓ Introduction of 100% final inspection (quality wall)
- ✓ Delivery onhold or warehouse blockage
- ✓ Introduction of temporary sorting
- ✓ Documentation checking (technological procedures, drawings, specifications...) for accuracy and correctness
- ✓ Inspection of all standards
- ✓ Inspection of measurement systems (Inspection plan)
- ✓ Repair/rework of the manufactured parts
- ✓ Retraining of employees
- ✓ Stoppage of prodution

✓ Approval of containment actions

✓ Implementation (who, when, what, how?) + inspection of compliance (**Attachment to D3**)

✓ Verification (confirmation of effect, risk assessment)

✓ Short-term actions, isolation of the problem and elimination of the consequence, immediate protection of the customer, prevention of further losses until the time when the pernament actions will be taken.

A temporary action is only a guarantee to stop the problem, it is often not related to the cause of the problem.

3. Okamžité opatrenie(a) • Develop Interim Containment Action(s) • Sofortmaßnahme(n)

D4
ROOT CAUSE ANALYSIS AND IDENTIFICATION

Searching for causes on inputs, in the process, on the product. **Why did the problem occur and why was is not detected? We are looking for at least 2 root causes**

✓ Identification of possible causes – quality tools: Ishikawa, Brainstorming, Is/Is not (**Attachment to D4**)

✓ Identification of root causes (2x) – quality tools: 5Why, Is/Is not (**Attachment to D4**)

✓ Confirmation of the root causes – confirmation of correct selection (**Attachment to D4**)
    ✓ Active – test, simulations
    ✓ Passive – observation, proving

4. Zistenie príčiny chyby • Identify Root Cause of Defeft • Fehlerursache(n)

D5

DEFINITION AND VERIFICATION OF PERMANENT CORRECTIVE ACTIONS

✓ Select solutions only for confirmed root causes from D4

✓ Confirmation of effect – selection matrix, pilot test, simulation (estimation, assumption of effect)

✓ Creation of an action plan for the introduction of actions (responsibility, deadlines, control)

✓ **Attachments to D5**

5. Nápravné opatrenia Corrective Action(s) Keorrekturmaßnahmen	Zodpovedný Responsible Verantwortlich	Termín Term Termin	Dátum vybavenia Date of Realization Erledigungsdatum

D6

IMPLEMENTATION AND VALIDATION OF PERMANENT CORRECTIVE ACTIONS

✓ Implementation of actions according to the action plan from step D5. If changes occur during implementation, they must also be added to the action plan in step D

✓ Confirmation of the action effectiveness

✓ Process monitoring

✓ Removal of temporary actions (D3) after confirming the effect (D6) – with the customer approval!

✓ **Attachments to D6 (validation report)**

6. Druh overenia účinnosti a výsledok Action to Verify Effectivness and Result Art der Wirksamkeitspüfung und Ergebnis	Zodpovedný Responsible Verantwortlich	Termín Term Termin	Dátum vybavenia Date of Realization Erledigungsdatum

D7
PREVENTION OF REOCCURRENCE

✓ Documentation of changes – preventing reoccurrence by standardizing changes!

✓ Revision of concerned standards (systemic process or product change), possibly adding a new standard:

    ✓ PFMEA, Process flow, Control plan, Drawing, Work instruction, Guideline, Training plans, Skills matrix (**Attachments to D7**)

✓ Processing of Lessons Learned – transfer experience to a similar process or product

7. Opatrenia na zabránenie opakovaniu sa výskytu a ošetrenie bodov úniku Actions to Prevent Recurrence and Identification and Handling of Escape Points Maßnahmen, die das Auftreten von der Wiederholung verhindern und das Ort des Lecks behandeln			**Zodpovedný** Responsible Verantwortlich	**Termín** Term Termin	**Dátum vybavenia** Date of Realization Erledigungsdatum
FMEA-aktualizácia FMEA Update FMEA-Aktualisierung	**Nie** • No • Nein ☐	**Áno** • Yes • Ja ☐			
Kontrolný plán aktualizovaný Control Plan Updated Aktualisierter Kontrollplan	**Nie** • No • Nein ☐	**Áno** • Yes • Ja ☐			
Týka sa všetkých procesov/výrobkov Affects all the Processes/Products FMEA-Aktualisierung	**Nie** • No • Nein ☐	**Áno** • Yes • Ja ☐			
Týka sa ostatných závodov Affects Others Plants Sind andere Standorte betroffen	**Nie** • No • Nein ☐	**Áno** • Yes • Ja ☐			

D8
FINAL MEETING AND REPORT CLOSURE

Do the final meeting only when all steps after D7 have been completed

✓ Terminate team activity

✓ Evaluate the 8D process, achieved results and team activity

✓ Officially close the report (check data and attachments, sign and send)

✓ The 8D report must be filled out and sent whenever the customer requests it, even if the claim is not accepted

✓ When the claim is not accepted, it is necessary to complete steps D1 to D4 (in D4 justify and support with evidence why the claim is not accepted)

✓ If the supplier has own software for claims, it is possible to agree the acceptance of his output as 8D report, but it must be complete and correct

✓ Archive 8D report including all attachments for future needs

8. Dátum ukončenia/verifikované • Concluded on/Virified • Abschlussdatum/Verifiziert	Meno a podpis zodpovedného pracovníka • Name and Signature of Responsible Person • Name und Unterschrift des Verantwortlichen

RECOMMENDATIONS FOR THE 8D METHOD

✓ Do not skip steps D1-D8

✓ Ask and involve people (take time to understand the root cause before permanent action is taken)

✓ Gather data and facts, the more the better

✓ Define problem clearly – „the more precise is a desription, than faster will be a solution"

✓ See the solution as an opportunity to improve

✓ Introduce online systems for records (connection, transfer of information)

✓ Internaly agree the form of reports, critical deadlines, minimum criteria for temporary and permanent actions, requirements for using quality tools and the form of inspection (internal, external) in advance

✓ Carry out employees training on knowledge of the 8D methodology fot better understanding and cooperation

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