

WHY SCOOTERS ?

The CMAS Scooter Diver Training System



Leo Troiano / Beat Müller

Why Scooters ?

Presentation to the CMAS EB

AGENDA

- CMAS Scooter Working Group
- Results (Documentation)
- The different ways of using underwater scooters
 - Recreational
 - Tec
 - Overhead
- Advantages
- Disadvantages
- Special Scooter Topics
- Technical Scooter Classification
- Levels of Training & Certification
- Level Designations
- Scooter Training by CMAS TC
- Useful Links

CMAS Scooter Working Group

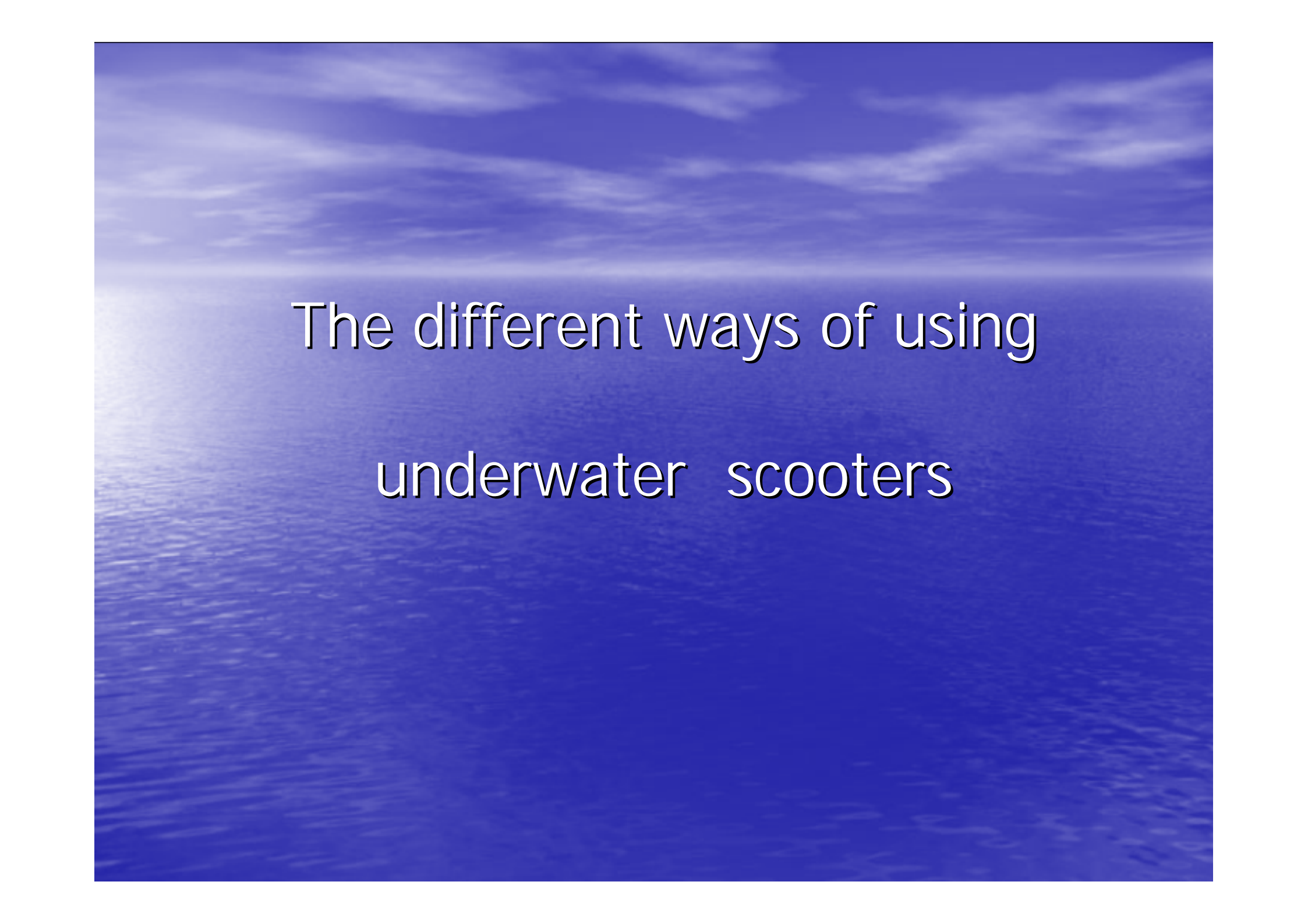
- After discussion with TC president as of 26.05.2007 in Rome, a working group has been established to develop and propose corresponding standards and an adequate training system
- goal was to present this system to the TC on the meeting of 15.09.2007 in Dublin
- the group hold one (weekend-long) meeting in Lavertezzo (Switzerland)

CMAS Scooter Working Group / Members

- Leo Troiano, Switzerland
(CMAS director of standards)
- Beat Mueller, Mech. Eng., Switzerland
(head cave diving working group)
- Alessandro Fenu, Italy
(cave diver & manufacturer)
- Ingeniere Marco Segatto, Italy
(development and production)

Results (Documentation)

- CMAS Training & Certification System for Scooter Diving (General Terms)
- CMAS Construction Standards for Underwater Scooters (Classification)
- CMAS Standards & Training System for Recreational Scooter Diver
- CMAS Standards & Training System for Tec Scooter Diver
- CMAS Standards & Training System for Overhead Environment Scooter Diver

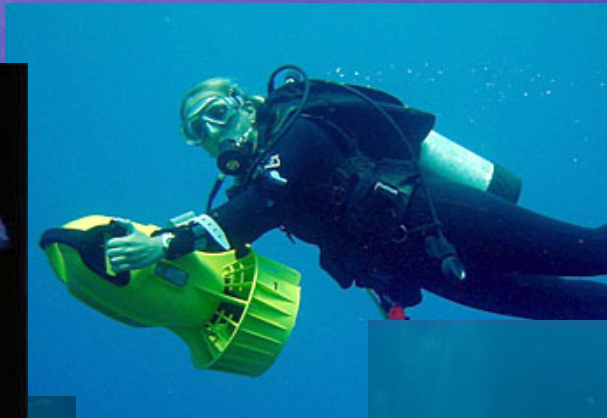


The different ways of using
underwater scooters

RECREATIONAL

pure fun...

sport scuba diving...



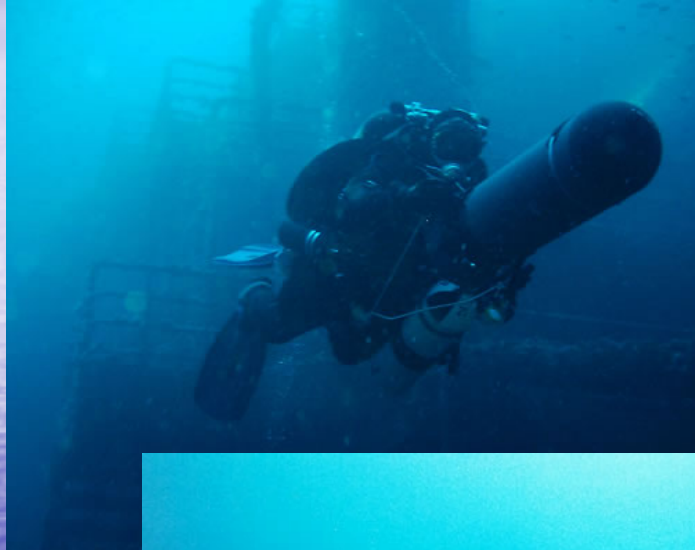
TEC (Ntx ,Tmx)



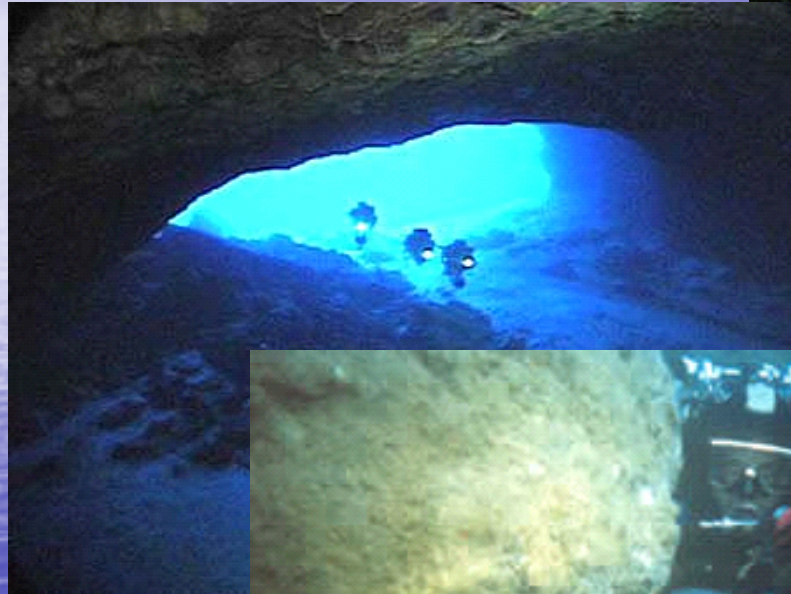
more TEC: Rebreather (CCR, SCR)



(Overhead) WRECK Penetration



(Overhead) CAVERN and CAVE



Advantages

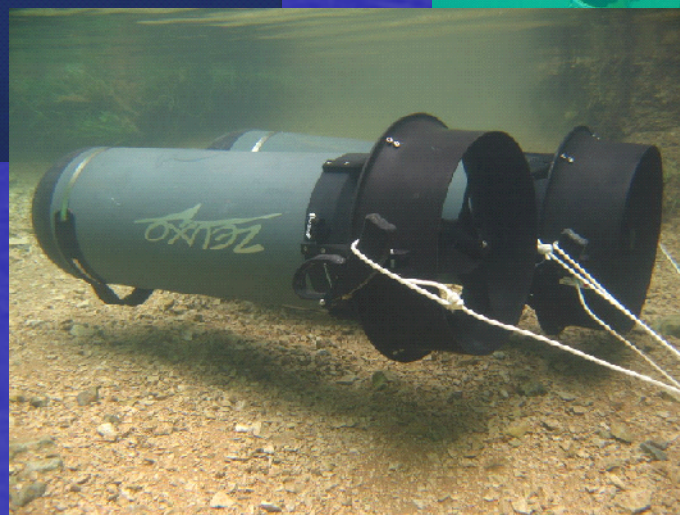
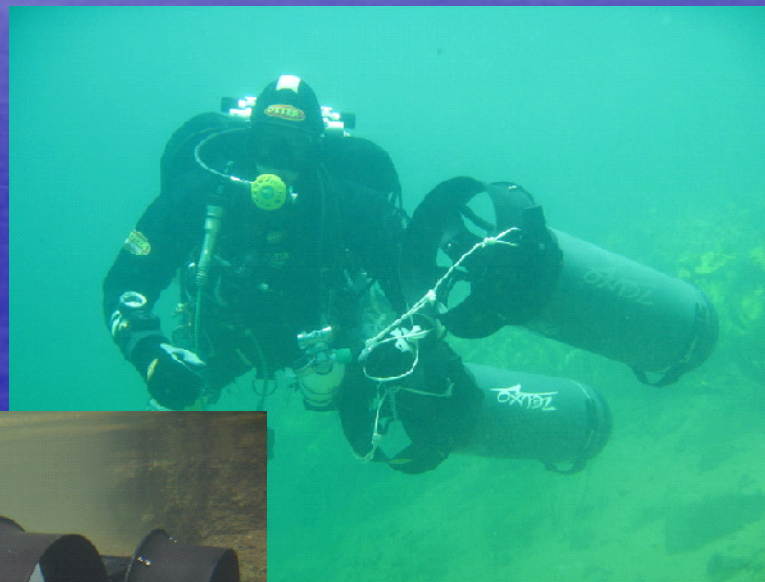
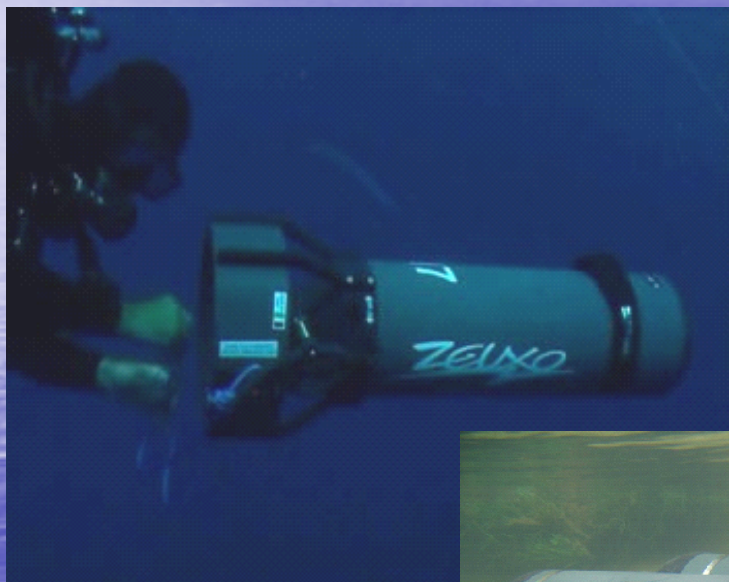
- increased underwater mobility
- reduced physical effort
- reduced saturation / reduced decompression
- reduced risk of getting short of breath (essoufflement)
- may be used for transporting incapacitated divers
- instructors overseeing their groups
- search & rescue activities over wider areas
- more global safety

Disadvantages

- requires special training (recreational, tec, overhead)
- transport logistics (size & weight)
- costs
- technical care & maintenance
- cumbersome in small caves

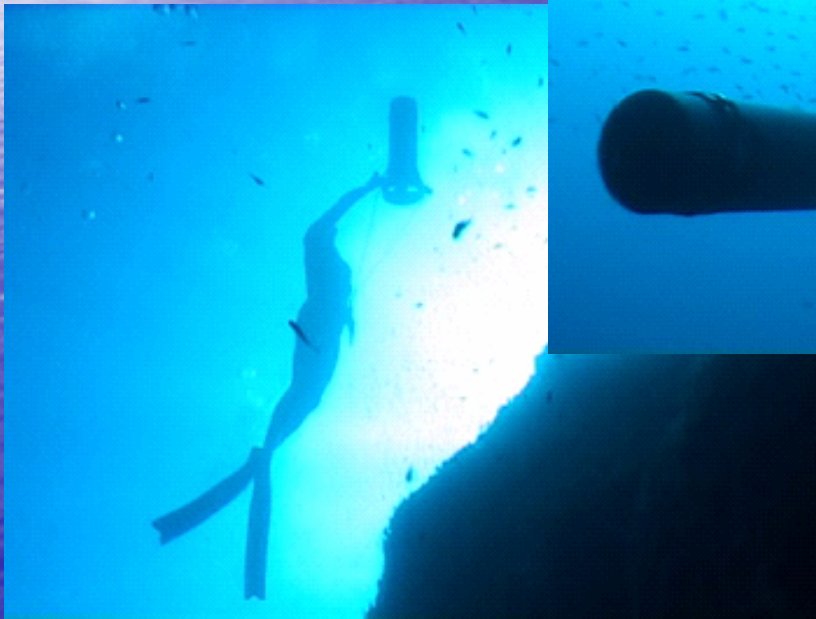
Special Scooter Topics

ARCHIMEDES, buoyancy...no problem...



Special Scooter Topics

FREE DIVING...



Special Scooter Topics

correct positioning....



Special Scooter Topics

search, recovery, rescue,.....



Special Scooter Topics

scooter use for divers with disabilities

www.hsa.it

Responsabile

Sig. Massimiliano Carriero

La Spezia – Italia

0039 340 4935524

Technical Scooter Classification

- for recreational use -> Class 1 scooters
- for tec diving use -> Class 2 scooters
- for use in overhead environment -> Class 3 scooters (tow-behind only)

Technical Scooter Classification

CMAS Technical Documentation

- General Terms
- Technical Classification

SCOOTER PILOT COURSES

CMAS TRAINING & CERTIFICATION SYSTEM

GENERAL TERMS



CMAS International

Version: 01.08.2007
V1.0

CONSTRUCTION STANDARDS

FOR

UNDERWATER SCOOTERS



CMAS International

Version: 01.08.2007
V1.0

Levels of Training & Certification

- air diving+OW -> Recreational Scooter Diver
Recreational Scooter Instructor
- Ntx, Tmx, CCR/SCR+OW -> Tec Scooter Diver
Tec Scooter Instructor
- Overhead environment
(cavern, cave, mines,
wreck penetration,
under ice)
-> Overhead Environm. Scooter Diver
-> Overhead Environm. Scooter Instructor

Level Designations

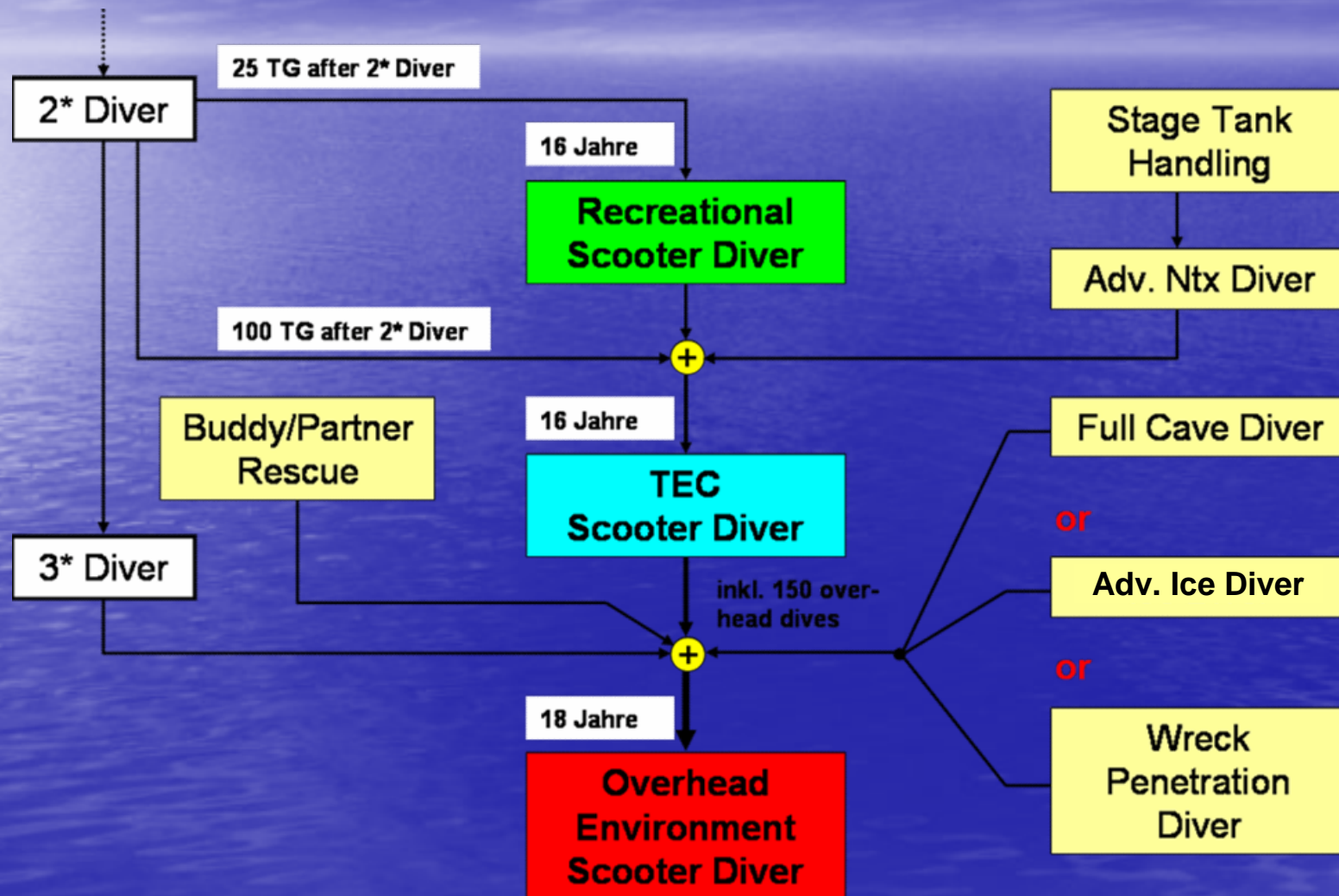
Recreational Scooter Diver
Tec Scooter Diver
Overhead Environment Scooter Diver

Recreational Scooter Assistant
Tec Scooter Assistant
Overhead Environment Assistant

Recreational Scooter Instructor
Tec Scooter Instructor
Overhead Environment Scooter Instructor

TRAINER Level not yet decided

The Scooter Training System



Standards for all Levels

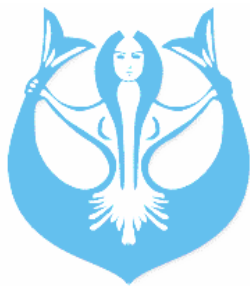
CMAS Technical Documentation

- Recreational
- Tec
- Overhead

SCOOTER PILOT COURSE

LEVEL 1 (Recreational)

STANDARDS AND REQUIREMENTS



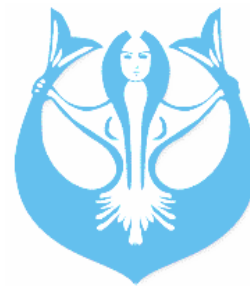
CMAS International

Version: 01.08.2007
V1.0

SCOOTER PILOT COURSE

LEVEL 2 (Tec)

STANDARDS AND REQUIREMENTS



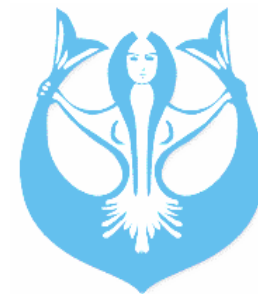
CMAS International

Version: 01.08.2007
V1.0

SCOOTER PILOT COURSE

LEVEL 3 (Cave)

STANDARDS AND REQUIREMENTS



CMAS International

Version: 01.08.2007
V1.0

Scooter Training by CMAS TC

- Staff Course
4. + 5.08.2007
south of the
Alps



- possibility to add another staff course
during the international CMAS Tmx
course on Elba

Useful Links

- www.divesystem.com
- www.suex.it
- www.silent-submersion.com
- www.dive-xtras.com

THE END

