The image depicts how our robot Irma3D sees itself in a mirror. The laser looking into itself creates distortions as well as changes in intensity that give the robot a single eye, complete with iris and pupil. Thus, the image is called "Self Portrait with Duckling".
3DTK – The 3D Toolkit

• Toolkit means
  ...it is no library!
  ...set of programs that perform a certain job

• GNU GPLv3 license with a few additional restrictions
• Same code may be licensed in some other ways as we are the sole authors and copyright holders of the work.
3DTK – The 3D Toolkit

- OpenSource/GPL
  - slam6d
  - show
  - scan_red
  - featurebasedregistration
  - scanner/camera-calibration
  - and much much more

- Non-OpenSource
  - our crown jewels

- User specific applications

- BSD or similar license models
  - ...that allow the lib to be used in commercial software
  - Boost, ROS, newmat, OpenGL, freeglut, glui, csparse, ...
  - OpenCV
Background – SLAM/Robotics

CMU 3D mapping of abandoned mines

RoboCup Rescue

(video)

(video)

(video)
Processing of Professional 3D Laser Scans

• Terrestrial 3D Scanning

• Terrestrial & Mobile Mapping

(video)  (video)