



# Next Gen Soaring Computers

from e-vario to central data management, smart display & intuitive manipulation

how simple beeps evolved into high-tech improvements of human factor aspects





# Content

Introduction: Maurits Dortu, owner Glider Pilot Shop,  
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- History
- Today
- Inputs
- Output





# History

- Mechanical instruments
- Electricity on board
- Electronic varios
- Sollfahrt calculators
- Final glide computers
- GPS navigation
- Moving maps
- **Today's possibilities**

membranes, sealings, needles & calibrations  
batteries, wires, fuses & switches  
integrators, beeps & more beeps  
MacCready, bugs & ballast  
distances, altitudes & paper charts  
coordinates, targets & still paper charts  
maps, airspace, flarm & paper charts ???  
...neatly folded and stowed out of reach

## **processors, memories, displays & inputs**





# Today

- Processors
  - Memories
  - Displays
  - **Inputs**
  - **Output**
- high speed calculations & multi-tasking  
gigabytes, RAM, databases, SD & USB  
color, brightness, touchscreens & sizes  
**sensors, switches, antennas & pilots/clubs**
- workload ↓ & situational awareness ↑**





## Inputs

- Sensors
- Switches
- Antennas
- **Pilots/clubs**

pressures, acceleration (g), temperature, noise, humidity, systems, configuration & biofeedback  
push (s+l), rotary, toggle, stick, remote & combi  
GPS, Flarm, ADS-B, GPRS, WiFi, Bluetooth & satcom  
**settings, profiles & customization**





# Output

- **Goals:**
  - reduce pilot workload by filtering and processing data and provide information to the pilot based on: safety, urgency, relevancy & pilot demand
  - increase pilot situational awareness of: air- and flight data, navigation, task, terrain, traffic, performance, systems, avionics, configuration & pilot
- **Tools available:**
  - visual display of data, warnings & messages
  - aural communication of data in voice & sounds



