Kongsberg Maritime
Product overview

Product range - 2011

Model	Frequency	Range	Coverage
Geoswath +	125,250,500kHz	0.5 - 200m	12xD
EM 2040	200-400kHz	0.5 - 500m	5.5xD / 140-200 deg
EM 3002	300 kHz	0.5 - 270m	4-10xD / 130-200 deg
EM 710	70-100 kHz	3 - 2000m	5.5xD / 140 deg
EM 302	30 kHz	10 - 7000m	5.5xD / 140 deg
EM 122	12 kHz	50 - 11000m	6xD / 150 deg
SBP 120/300	2.5 - 7 kHz	20 - 11000m	3,6,12 degree
TOPAS PS18	0.5 – 6 kHz	20 – 11000m	5 degree
TOPAS PS40	1 – 10 kHz	4 – 1000m	5 degree
GeoChirp II	2 – 12 kHz	Towed	55 degree
EA 400/600	12-710kHz	0.5 - 11000m	
2094 digital SSS	114/410 kHz	Towed	
HiSAS 1030	70-100 kHz	AUV	>400m

Number of system sold: >900 EM multibeams systems / >1250 EA singlebeam systems

Product range - 2011

KONGSBERG

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

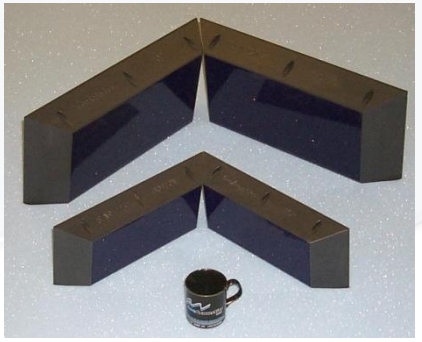
HiSAS 1030

Geoswath+ Wide swath bathymetry system

Applications from shallow to
very shallow water surveys

Key features:

- 125 / 250 and 500 kHz version available
- Max range >200, 100 and 50 m
- Dual transducer system
- Max coverage 780 / 390 and 195m or >12x D (240dg)
- Along track beam width 0.85°(125), 0.75(250), 0.5(500)
- Depth resolution 6mm(125), 3mm(250), 1.5mm(500)
- Pulse length 32 µs to 896 µs
- Pingrate >30Hz
- For ROV / AUV
- Transducer depth rating 4000m



Product range - 2011

Model

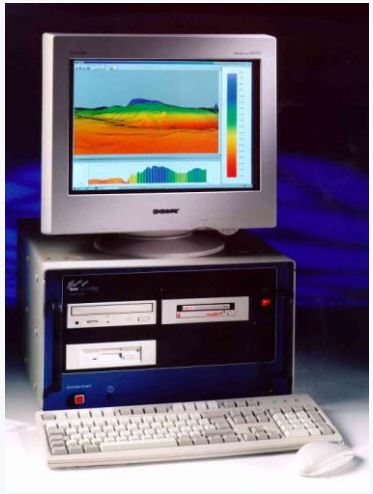
Geoswath+ Wide swath bathymetry system

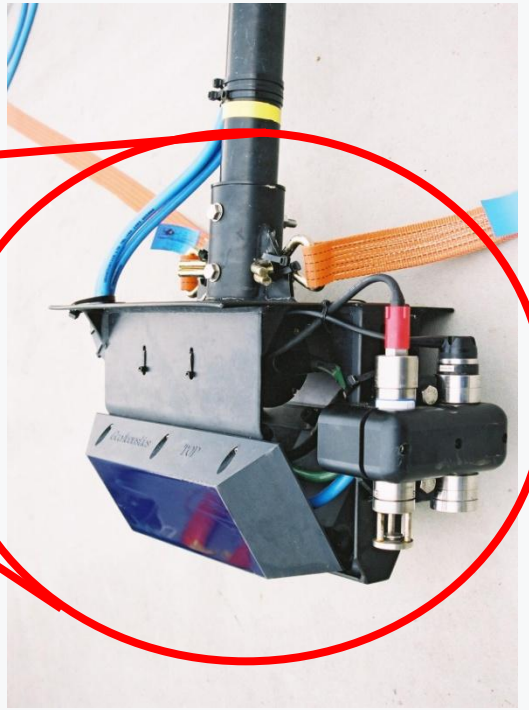
Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

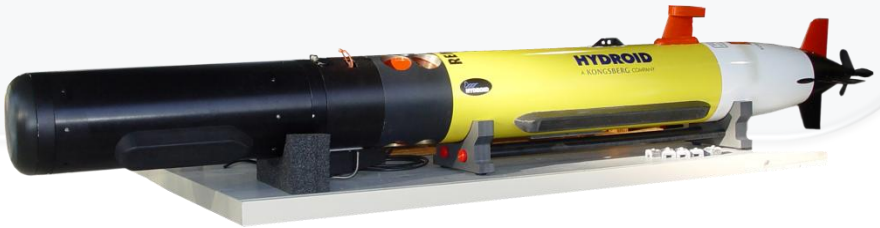
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030







Product range - 2011

Model

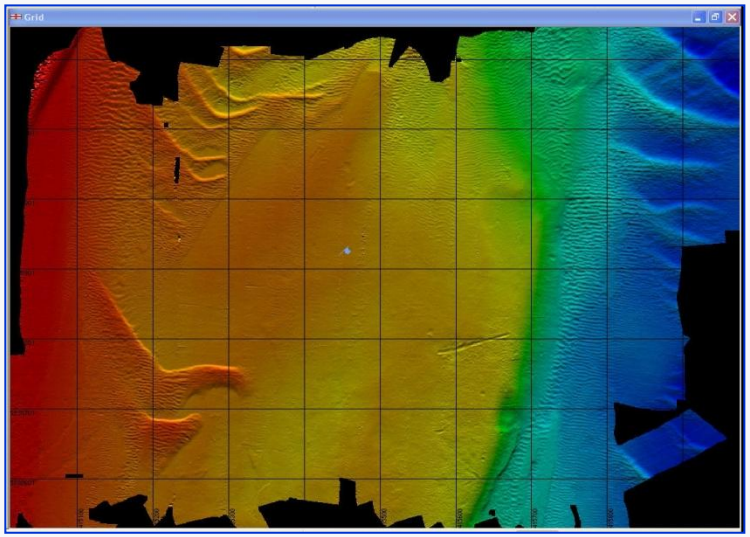
Geoswath+ Wide swath bathymetry system

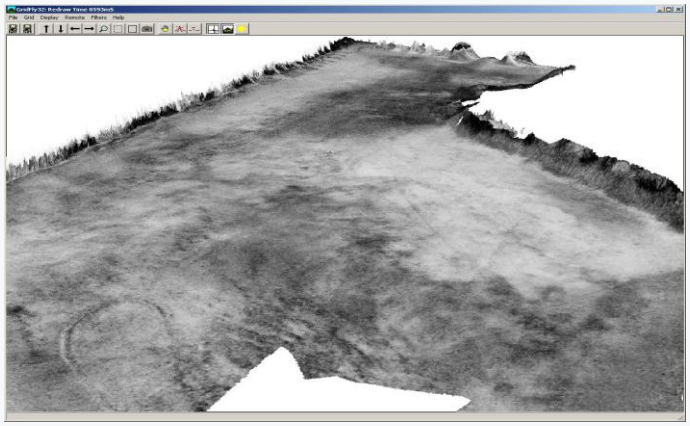
Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

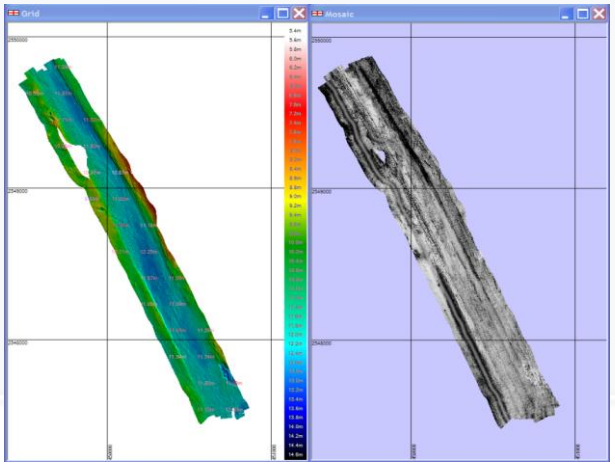
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

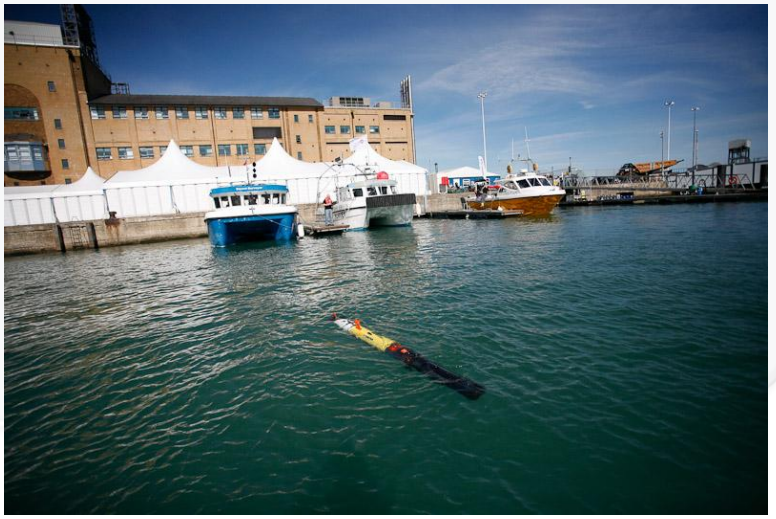
EA 400/600
2094 digital SS

HiSAS 1030









Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 2040 True wide band and high resolution Multibeam echosounder

Applications from very high resolution inspection to shallow water surveys

Key features:

- 200 – 400 kHz operating frequency
- Max range >500m
- Single and dual RX
- Max coverage >500m, 140dg(S)/200dg(D)
- Dual swath with 800 soundings
- Sector transmitting, 3 sectors
- Modular design 0.5x1 and 1x1 (300kHz)
- Pingrate >50Hz
- Pulse length from <20ms to 600us using FM chirp and CW
- Roll, pitch compensated
- Roll, pitch, yaw stabilized
- Transducer depth rating 6000m

Product range - 2011

Model

Geoswath +

EM 2040

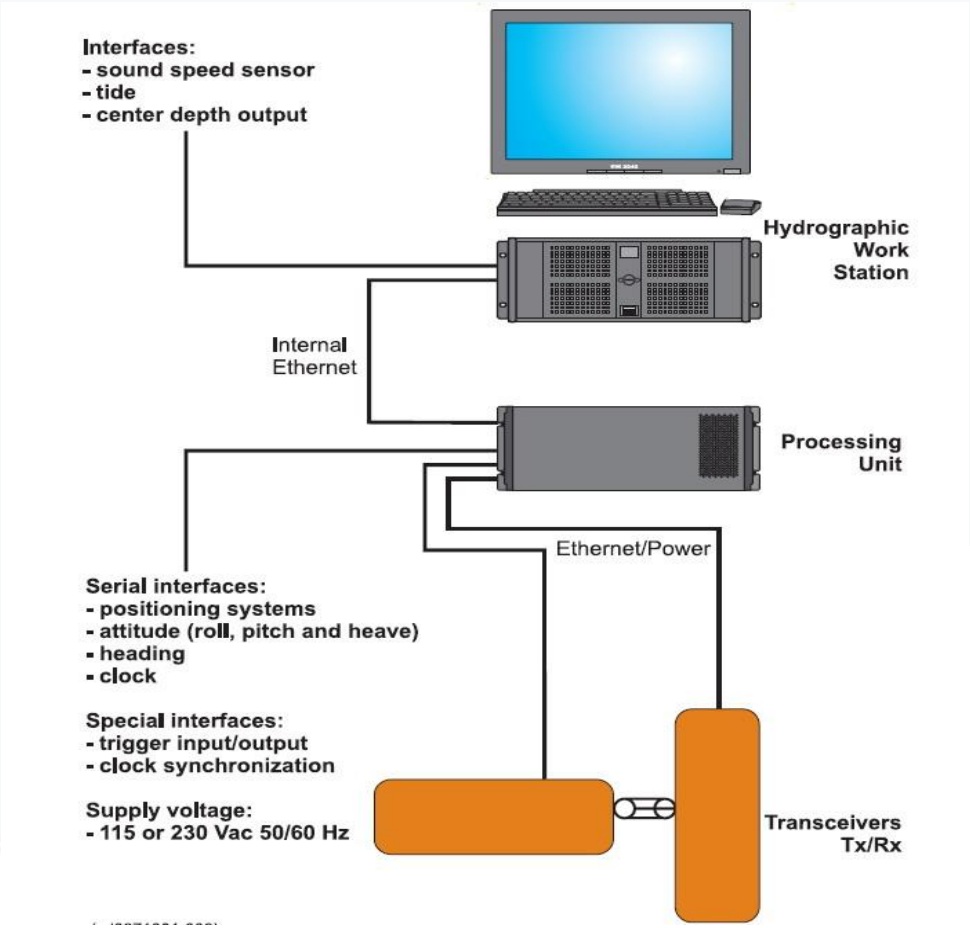
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 2040 True wide band and high resolution Multibeam echosounder



Product range - 2011

KONGSBERG

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

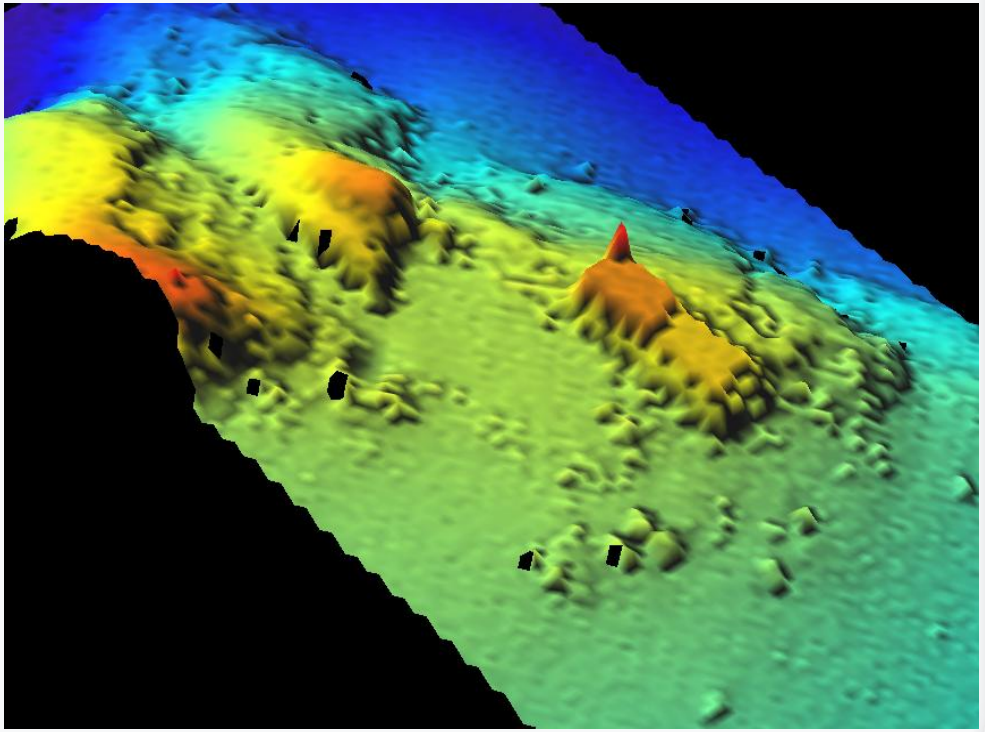
EA 400/600
2094 digital SS

HiSAS 1030

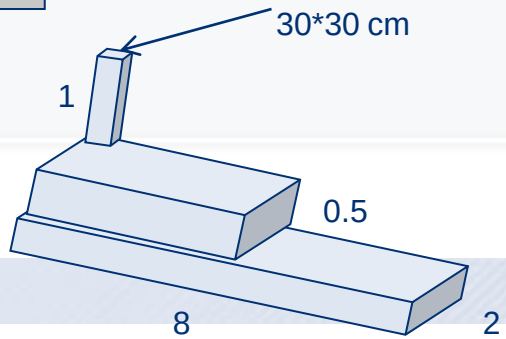
EM 2040 True wide band and high resolution Multibeam echosounder

Victor Hensen installation:
EM 2040
0.5 * 1 degree
Dual swath

Concrete target 2*8 m
One half is 50 cm higher
A 1 m ”tower” at the corner,
30*30 cm at top.
19 m depth



400 kHz, 50 us, one single line, gridded.



@Fugro OSAE, Victor Hensen

Product range - 2011

Model

Geoswath +

EM 2040

EM 3002
EM 710
EM 302
EM 122

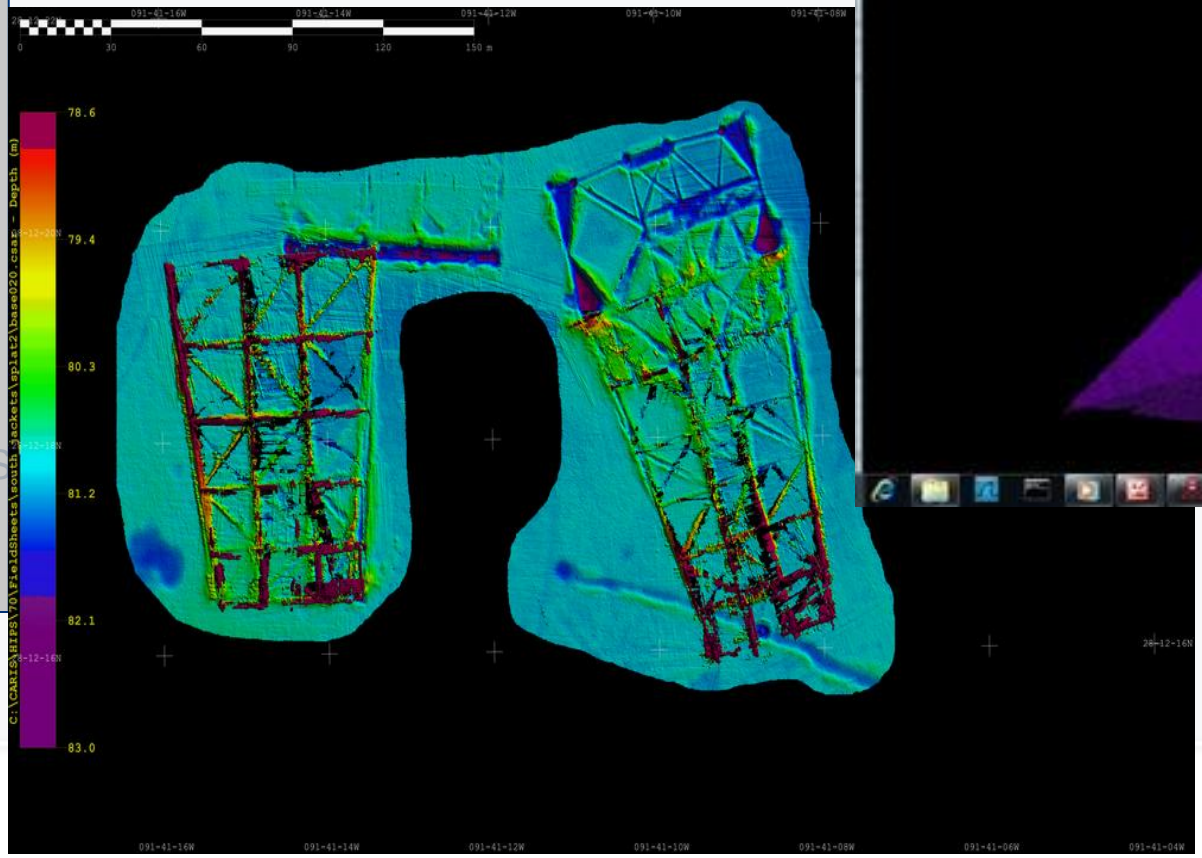
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

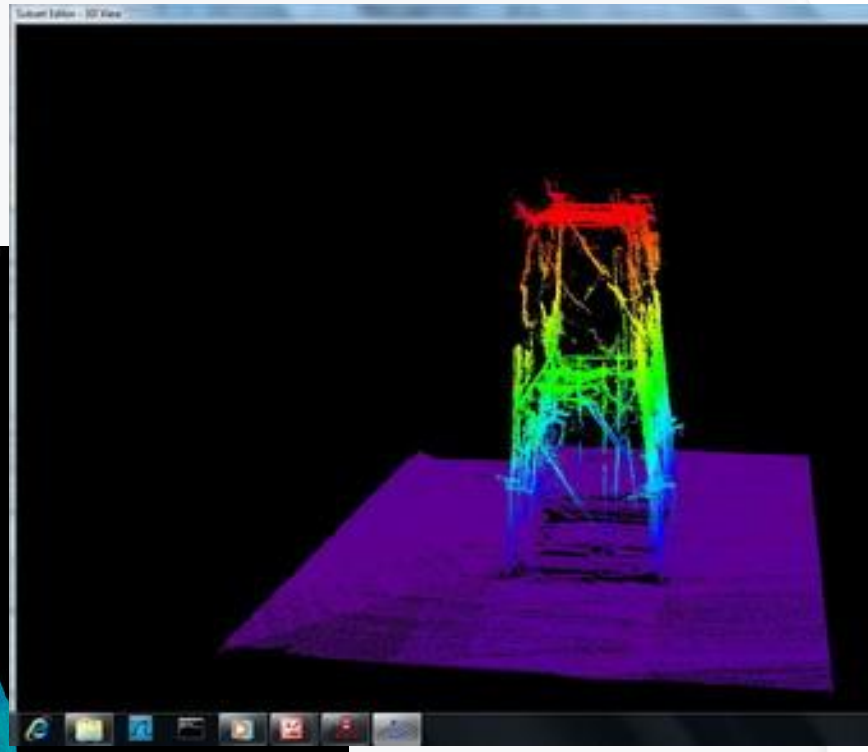
EA 400/600
2094 digital SS

HiSAS 1030

EM 2040 True wide band and high resolution Multibeam echosounder

ROV test at 2000m depth
GOM





Courtesy of Chevron

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002

EM 710

EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 710 High resolution wide band Medium water Multibeam echosounder

Applications from high resolution to medium water survey

Key features:

- Operating frequency 70 to 100 kHz
- Max range >2000m
- Max coverage >2500m / 140dg
- Modular design, from 0.5x1 to 2x2 degree beam width
- Dual swath with 800 soundings
- Sector transmitting, 3 sectors for increased performance
- Pingrate >30Hz
- Pulse length from 0.2ms to 120ms utilizing CW and FM
- Dynamic focusing on both transmit and receive
- Roll, pitch compensated
- Roll, pitch, yaw stabilization
- Compliance with IHO Special order

Shoal of fish

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002

EM 710

EM 302
EM 122

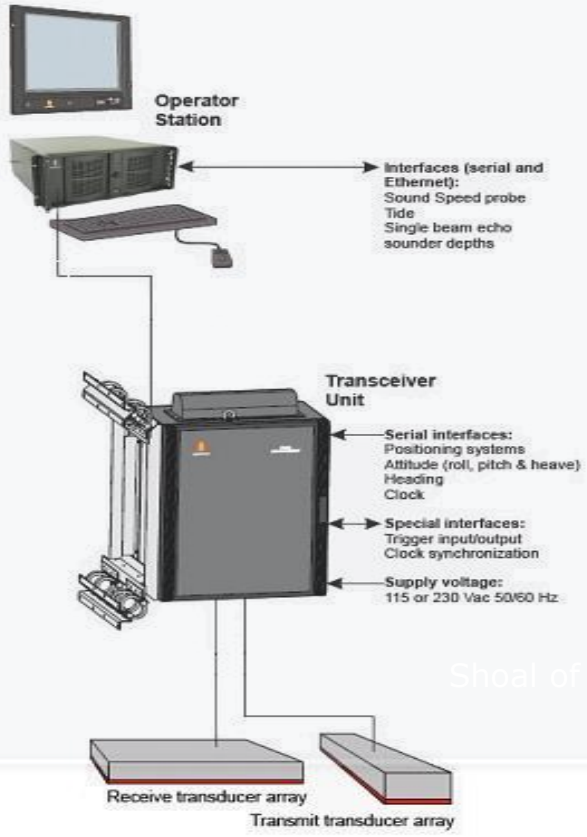
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 710 High resolution wide band Medium water Multibeam echosounder

Applications from high resolution to medium water survey



Product range - 2011

KONGSBERG

Model

EM 710 High resolution wide band
Medium water Multibeam echosounder

Geoswath +
EM 2040
EM 3002

EM 710

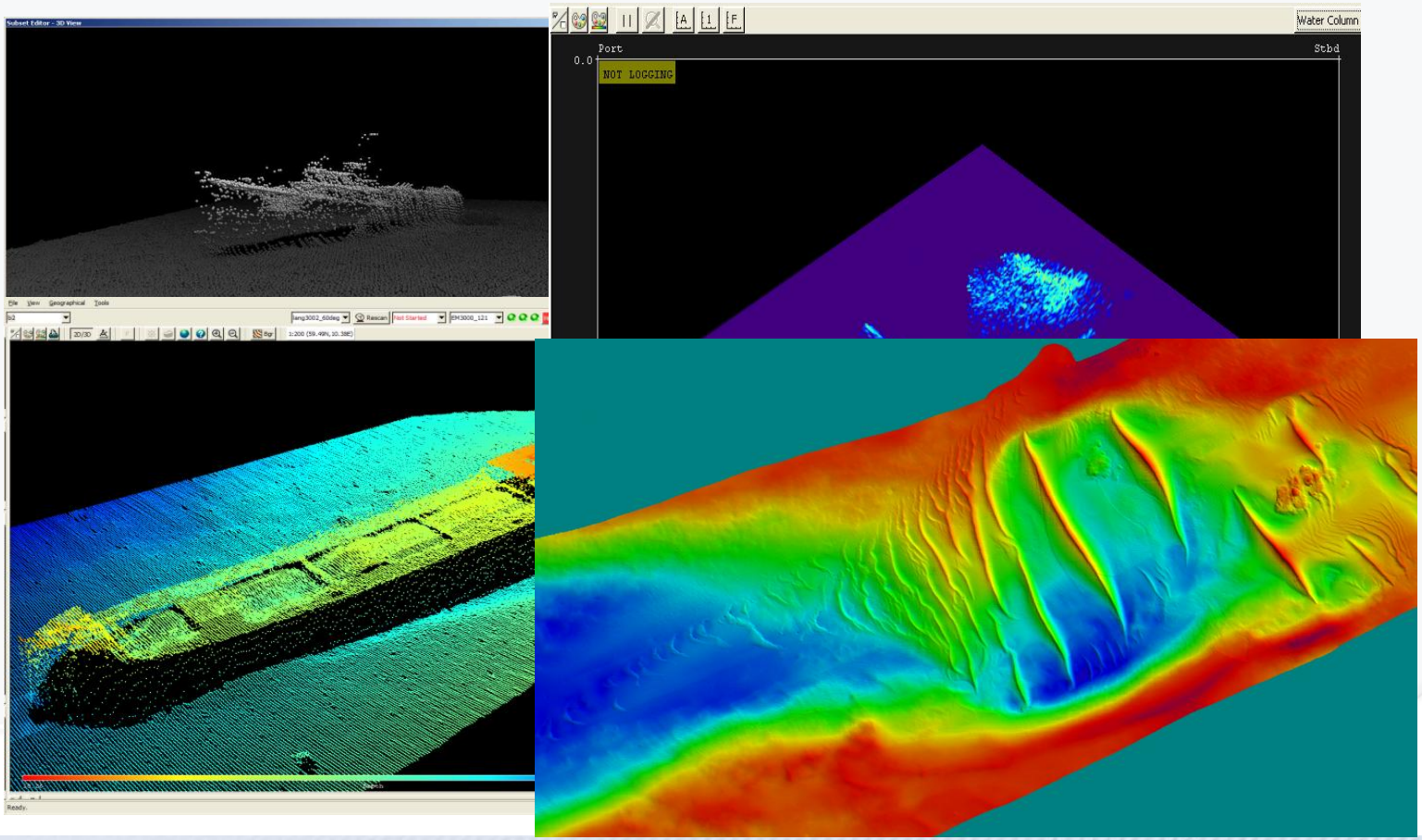
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

Applications from high resolution to
medium water survey



Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 302 Deep water Multibeam echosounder

Applications from medium to deep water surveys, for the continental rise including the shallower ocean basins, down to 7000m.

Key features:

- Operating frequency 26 to 34 kHz
- Max range >7000m
- Max coverage >8000m / or 140dg
- Modular design, from 0.5x1 to 4x4 degree beam width
- Dual swath with 864 soundings
- Sector transmitting, 8 sectors
- Pingrate >10Hz
- Pulse length from 0.7ms to 30ms using FM chirp and CW
- Dynamic focusing both on transmit and receive
- Roll, pitch compensated
- Roll, pitch, yaw stabilized
- Compliant with IHO Order 1

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710

EM 302

EM 122

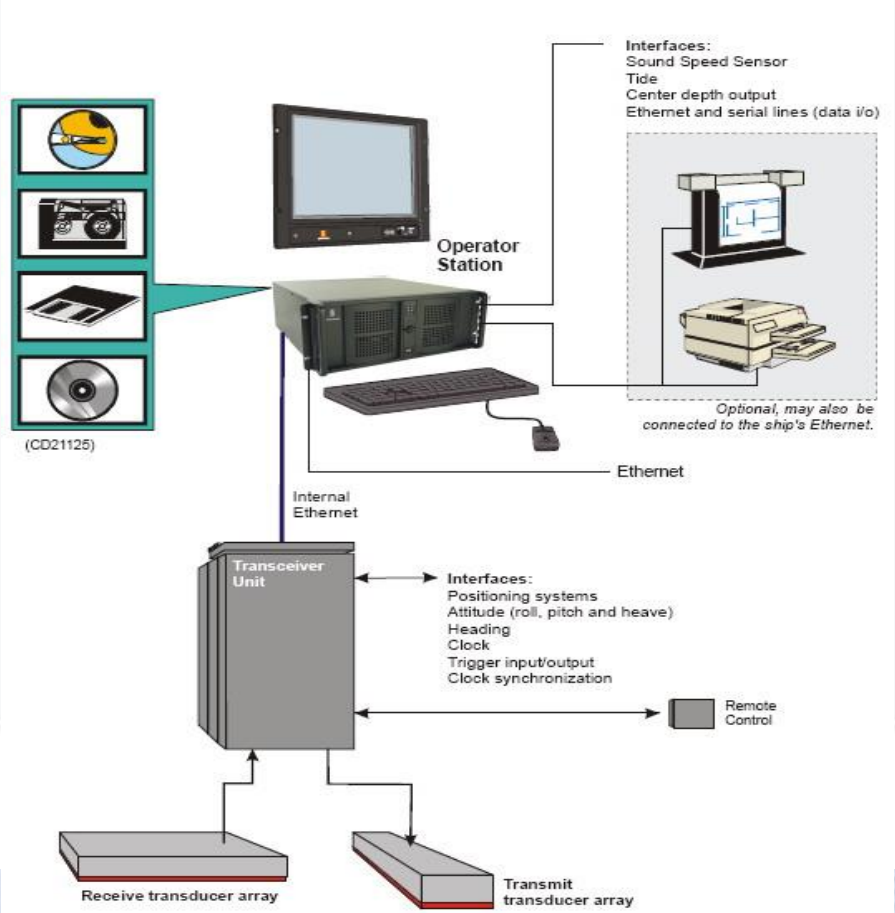
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 302 Deep water Multibeam echosounder

Applications from medium to deep water surveys, for the continental rise including the shallower ocean basins, down to 7000m.



Product range - 2011

KONGSBERG

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

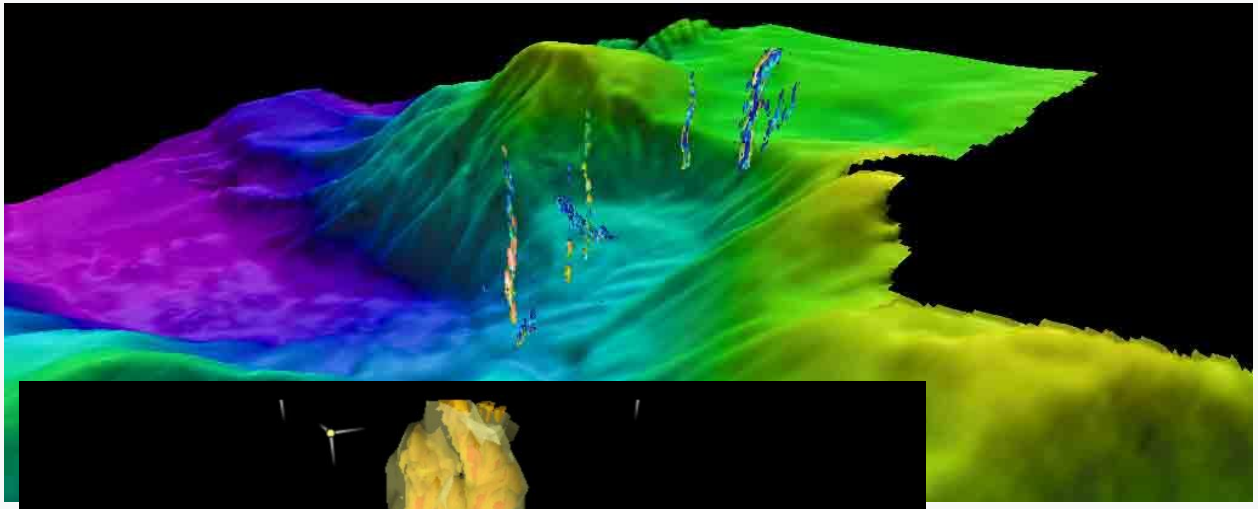
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

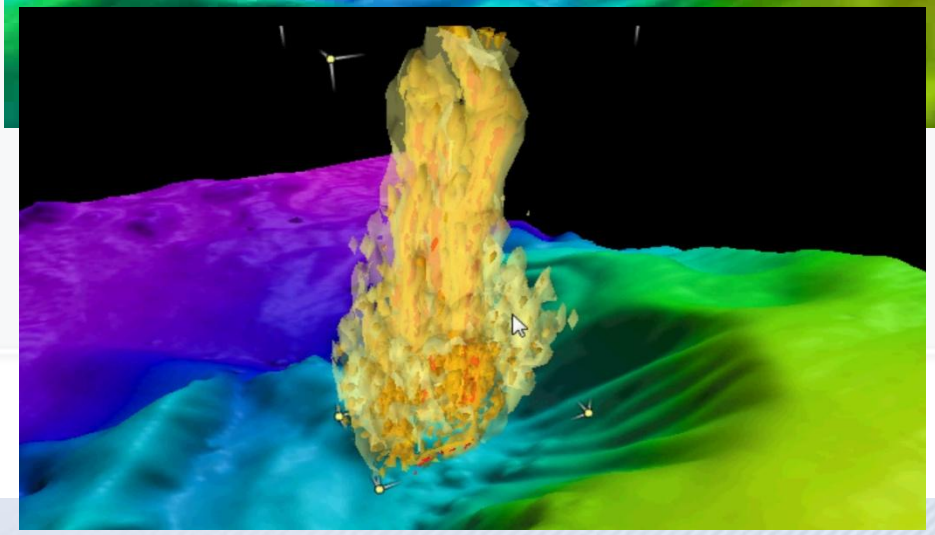
EA 400/600
2094 digital SS

HiSAS 1030

EM 302 Deep water Multibeam echosounder

Applications from medium to deep water surveys, for the continental rise including the shallower ocean basins, down to 7000m.





Bubbles from Subsea Chimney, detected Using Water column From EM 302

Courtesy of NOAA, Okeanos Explorer

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302

EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 122 Deep water Multibeam echosounder

Applications from medium to full ocean depth.

Key features:

- Operating frequency 10.5 to 13 kHz
- Max range >full ocean depth
- Coverage >30-35km / 150dg
- Modular design, from 0.5x1 to 2x4 degree beam width
- Dual swath with 864 soundings
- Sector transmitting, 8 sectors, for increased performance
- Pingrate >5Hz
- Pulse length from 2ms to 30ms, using FM chirp and CW
- Dynamic focusing both on transmit and receive
- Roll, pitch compensated
- Roll, pitch, yaw stabilized
- Compliant with IHO Order 1

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302

EM 122

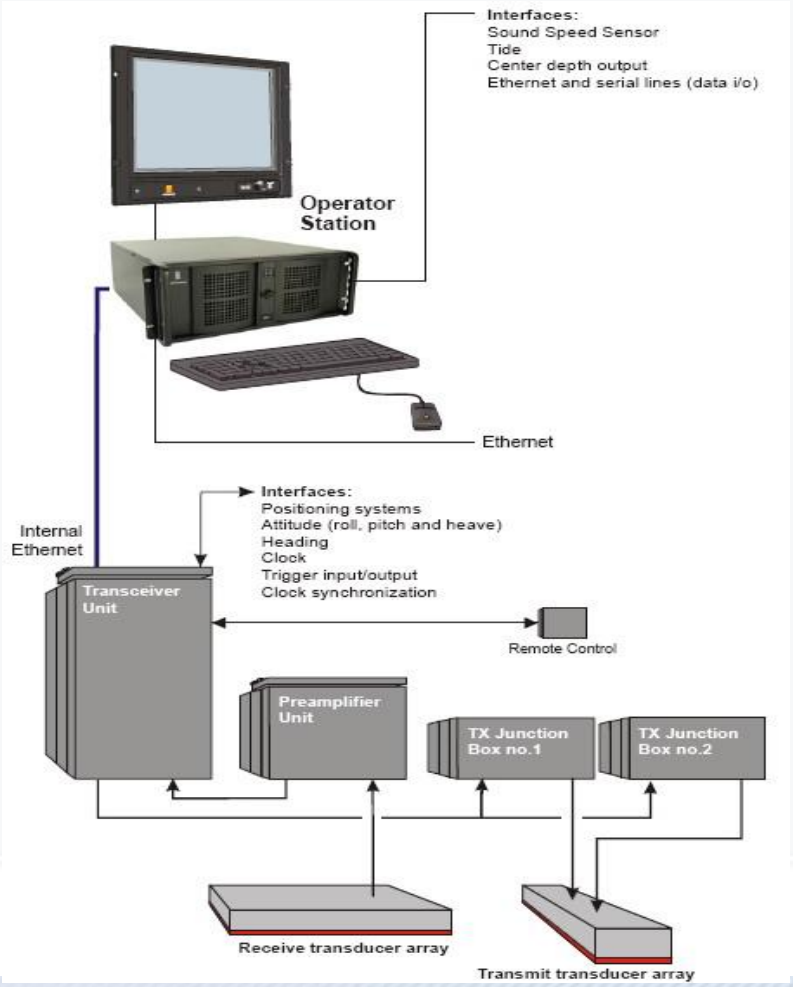
SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

EM 122 Deep water Multibeam echosounder

Applications from medium to full ocean depth.



Product range - 2011

Model

EM 122 Deep water Multibeam echosounder

Geoswath +
EM 2040
EM 3002
EM 710
EM 302

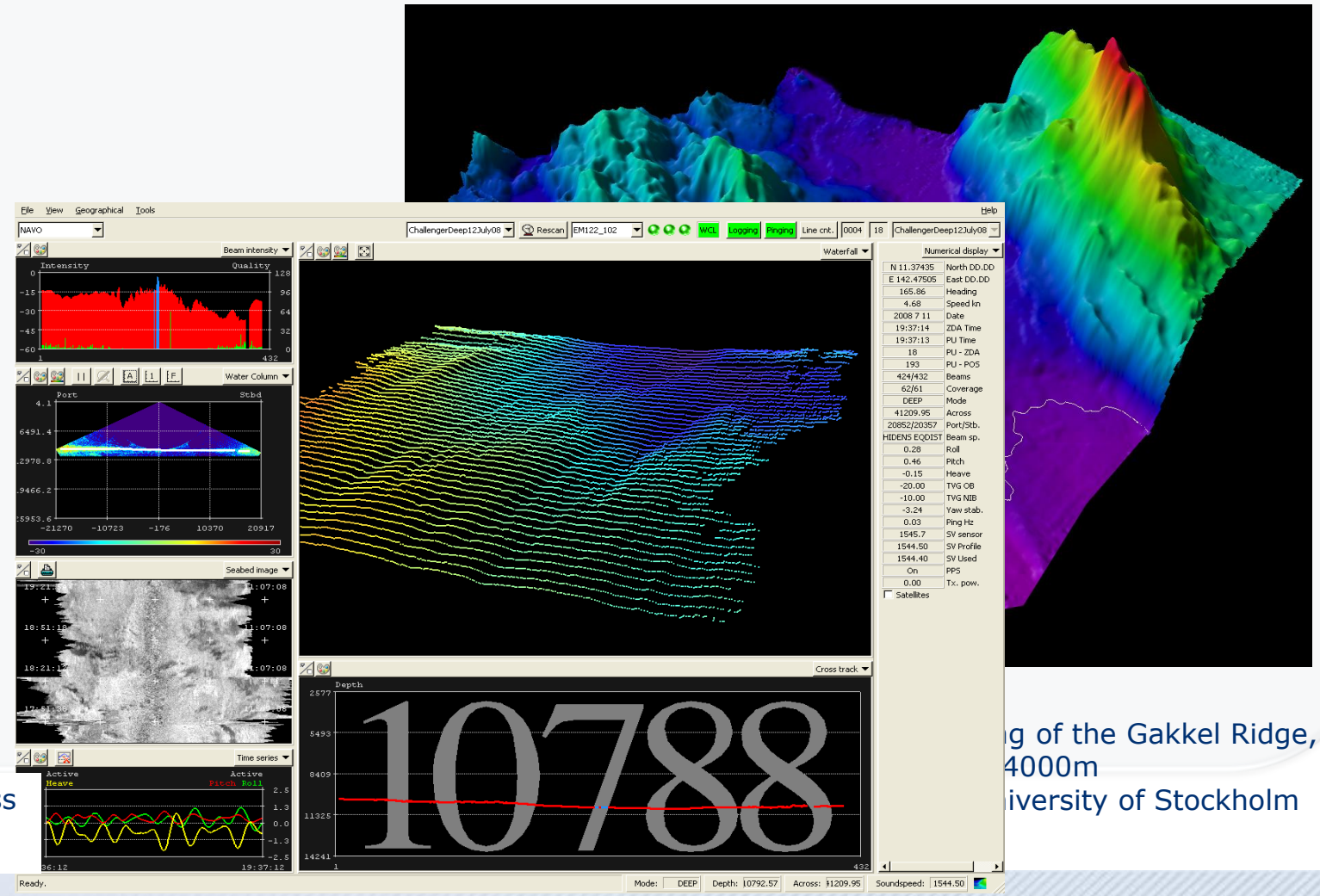
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600
2094 digital SS

HiSAS 1030

Applications from medium to full ocean depth.



Courtesy of NAVO
41209 meter across
62/61º coverage

g of the Gakkel Ridge,
4000m
iversity of Stockholm

Product range - 2011

Model

Geoswath +
EM 2040
EM 3002
EM 710
EM 302
EM 122

SBP 120/300
TOPAS PS18
TOPAS PS40
GeoChirp II

EA 400/600

2094 digital SS

HiSAS 1030

EA 400 / EA 600 hydrographic singlebeam echosounders

Key features:

- EA 400 operating frequency 33 – 710 kHz
- EA 600 operating frequency 10 – 710 kHz
- Up to 4 channels per system
- 2 channels per GPT