

## ■ Gudme Raaschou IT Seminar



Thrane & Thrane A/S  
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Henrik Lunde, COO

Thrane & Thrane  
**Thrane**

## ■ Important Notice

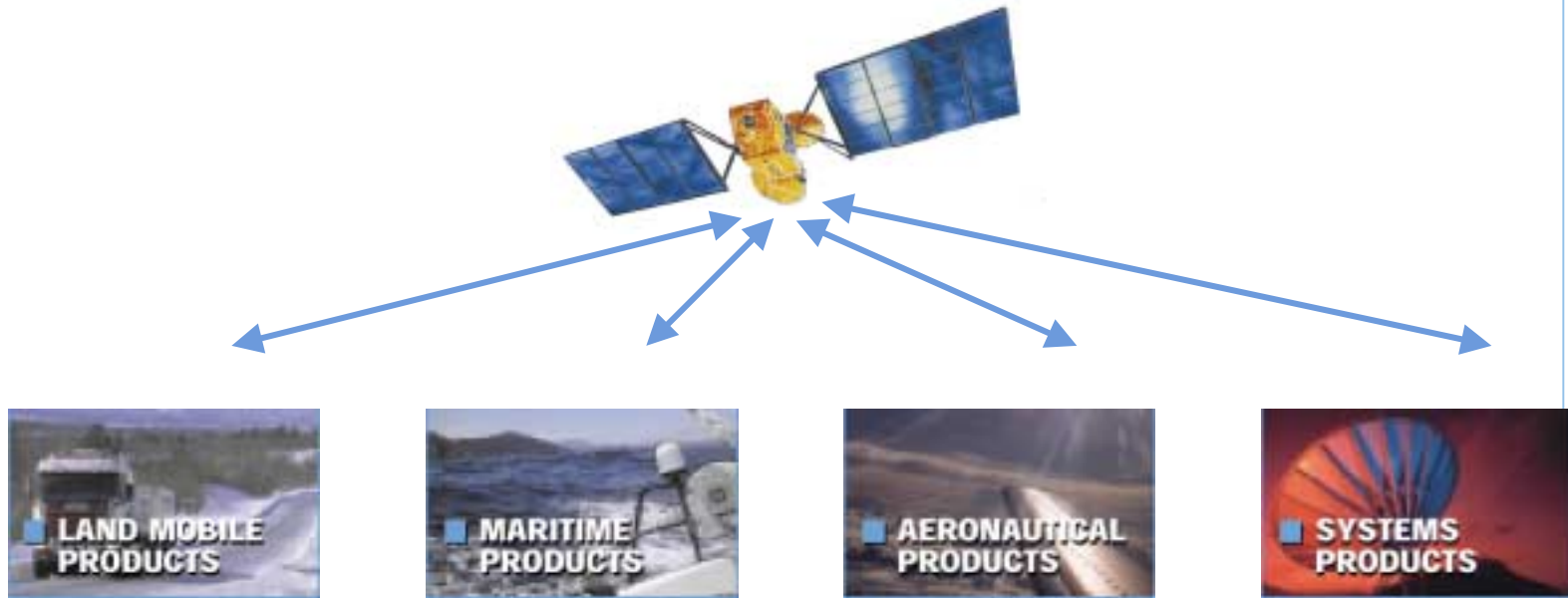
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We would like to caution you that actual results might differ materially from those projected in the forward-looking statements that we may make today. Such projections, expectations or beliefs involve known and unknown risks and uncertainties that may cause Thrane & Thrane's actual performance and financial results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied in the statements that we make today.

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# ■ Mobile Satellite Communication - Applications

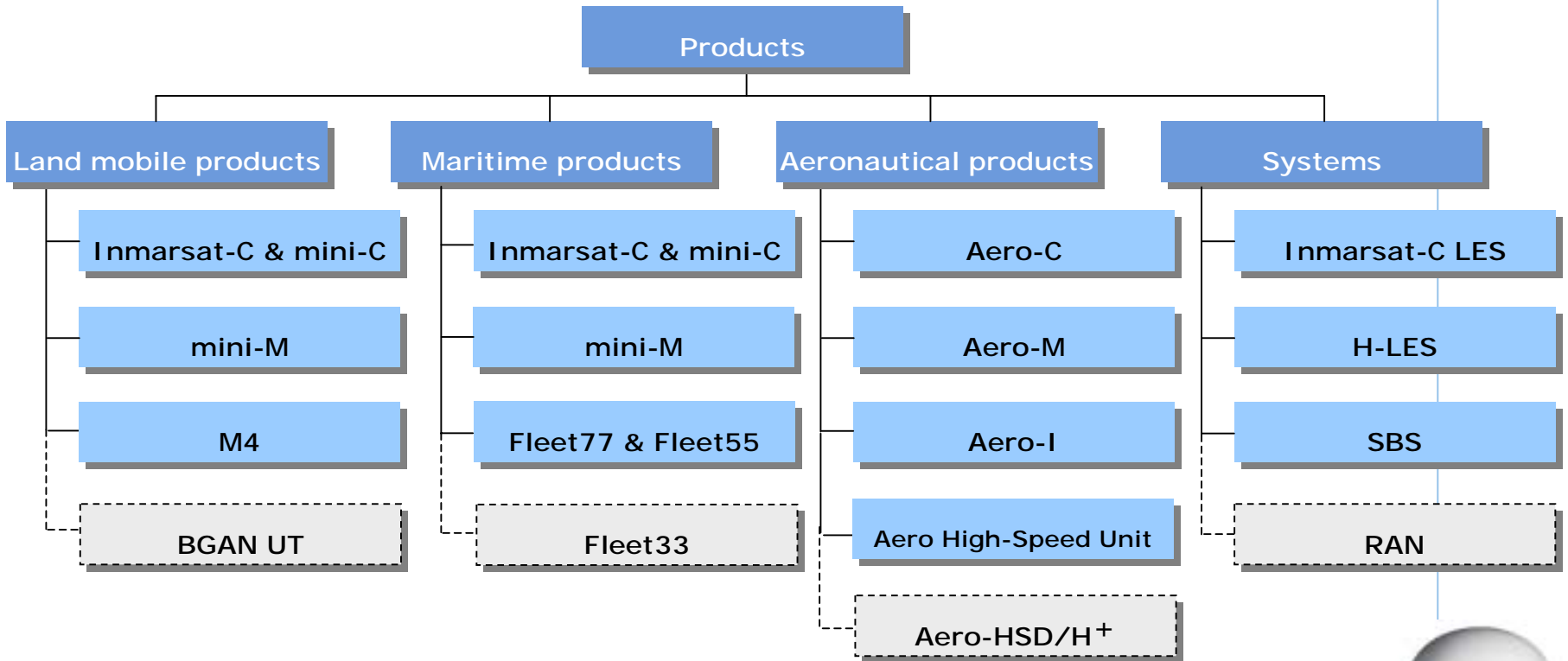
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- Personal communication services (voice, fax, e-mail, data)
- Remote network access (Internet and intranet)
- Safety (GMDSS) and security
- Tracking and positioning

# ■ Thrane & Thrane Product Portfolio

02-05-2003



- Thrane & Thrane has a strong presence in all segments within mobile satellite communication
- The product strategy is characterized by reuse of technology across market segments



## ■ Segment Turnover

02-05-2003

(mDKK)	YTD Q3 2002/03	YTD Q3 2001/02	YTD Q3 Change	Year 2001/02
Land mobile	156.6	120.3	30%	159.9
Maritime	124.6	89.9	39%	137.9
Aeronautical	26.9	19.8	36%	33.9
Systems	148.1	86.4	71%	145.1
<b>Total turnover</b>	<b>456.2</b>	<b>316.4</b>	<b>44%</b>	<b>476.8</b>
<b>Profit for the period</b>	<b>35.6</b>	<b>6.0</b>	<b>493%</b>	<b>25.9</b>

- Increase in turnover and profit is primarily driven by new product introductions
- For the full year 2002/03 turnover is expected to increase in all segments

## ■ Land Mobile Market

- Traditionally demand for portable terminals has been driven by a need for voice and fax communication
- However, since the introduction of M4 in 2000 applications for e-mail, access to corporate intranet and Internet, video conferencing, digital image transfer, remote working, telemedicine and remote monitoring have emerged
- With the penetration of such applications demand for M4 terminals has increased during the last 12 months
- Demand for tracking terminals during the last three quarters has been negatively affected by the downturn in the economy and the unstable political situation in Brazil
- However, the improving political situation in Brazil and completion of integration with application providers in the Americas have established a foundation for new growth



## ■ Maritime Market

- Maritime investments have typically been driven by a need for phone calls, fax and e-mail transmissions
- However, applications such as access to Internet and company intranet, high-speed data transfers, update of electronic weather charts and weather forecasts and order supplies or repairs from ports are more and more in demand
- As a result, Thrane & Thrane has experienced good interest for Fleet77 from merchant ship owners since the product introduction in March 2002
- A requirement for business around the clock, e-mail and access to Internet and company intranet in combination with reduced antenna sizes has triggered demand for Fleet77 and Fleet55 from the mega yacht segment
- Demand for fishery tracking applications including mini-C is expected to increase since the terminal is a highly effective tool for the enforcement of new EU regulations towards end 2006



## ■ Aeronautical Market

- Demand for aeronautical systems has been impacted by economic recession and intensified voice competition
- However, the introduction of Inmarsat's high-speed service (Swift64) is expected to increase customers' interest in buying new hardware
- This will positively affect Thrane & Thrane's sale of high-speed units to Honeywell/Thales and the future Thrane & Thrane high-speed terminal into the business jet market
- Passengers use the equipment for e-mail, web and corporate network access, large file transfers and video conferencing
- The equipment will help corporate and VIP flight crews to operate with greater safety and efficiency. Applications include access to e-mail, flight plan and electronic documentation updates, graphical weather information and warnings of technical deficiencies for maintenance staff



## ■ Systems Market

- Hardware and service upgrades on the existing Inmarsat-3 satellites have resulted in Inmarsat orders for Satellite Base Stations (SBS). Moreover, a service contract on the SBSs has been entered in Q3 2002/03
- In August 2001, Thrane & Thrane won the contract for development and installation of the Radio Access Network (RAN) for Inmarsat's next generation satellite system – BGAN
- During the current financial year RAN contract amendments of DKK 63 mill. have been entered with Inmarsat bringing the total value of the contract to DKK 438 mill. Hereof DKK 205 mill. has already been recognized
- The majority of the remaining part of the contract will be recognized during 2003/04 and 2004/05. The RAN contract runs until 2005/06



## ■ Product Development

- Thrane & Thrane's growth is based on product development. However, new investments in product development are only made when cash has been earned
- A key driver in product development is the increasing need for high-speed data. This need is reflected in all new products – Fleet55 and Fleet33, the aeronautical high-speed terminals and the future BGAN terminal
- Development of the new BGAN terminal is for the first time based on a core module. Using a core module represents a strategic advantage since it can be used for development of other terminal types (different sizes, other market segments etc.)
- The BGAN terminal will also be the first terminal containing ASICs. Using ASICs increases development costs but reduces terminal size and production costs
- Approximately 35 engineers are currently involved in development of the BGAN terminal and the core module while 65 engineers are involved in developing the RAN



# ■ Product Development Overview

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Product	Market	Launch
Fleet33 terminal	Maritime	End 2003
Aeronautical high-speed terminal	Aero	Q3 2003/04
BGAN terminal core module	All	2004
BGAN terminal	Land mobile	2005
RAN	Systems	2004/05

- Approximately 210 of Thrane & Thrane's 375 employees are involved with product development
- Development costs amount to approximately 15% of the company's total turnover



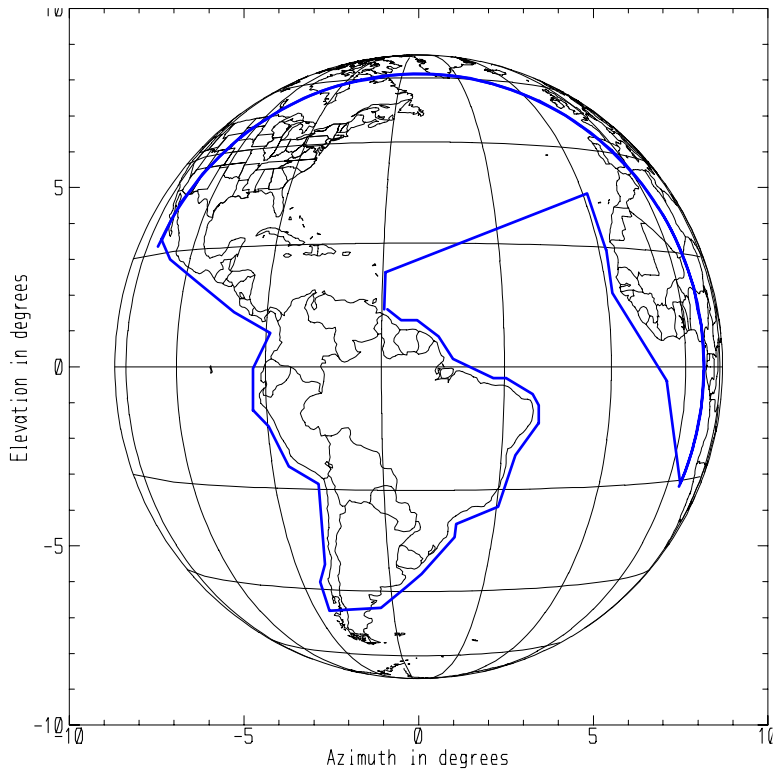
## ■ BGAN in Brief

- Inmarsat system planned to be launched in 2005
- Three satellites from Astrium (one ground spare)
- Covers most of the world's land masses
- Four RAN sites
- Air interface based on Thrane & Thrane's MPDS technology
- Transmission rates up to 432 kbps
- Integration with UMTS services
- UMTS core network equipment from Ericsson
- Terminals to be supplied by Thrane & Thrane (DK), Nera SatCom (N), Hughes Network Systems (US) and AddValue Technologies (SG)

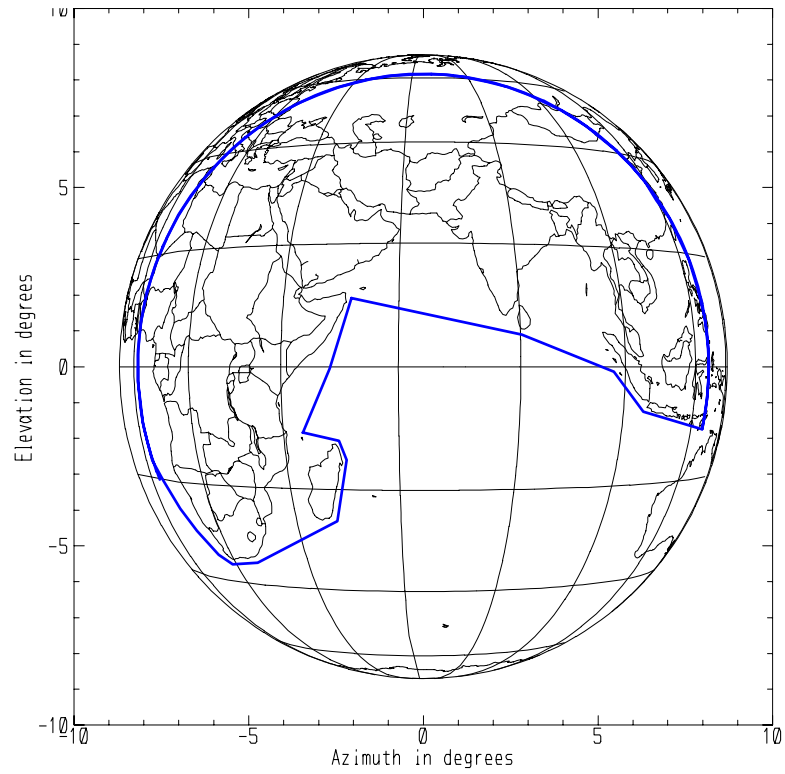


# ■ BGAN Coverage

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## ■ In Summary

- Thrane & Thrane's growth is based on new product introductions focusing on data communication
- All market segments are currently experiencing an increase in demand for data driven applications
- Consequently, Thrane & Thrane's already strong market position is expected to be further reinforced in the coming years, particularly driven by:
  - The Fleet77, Fleet55 and Fleet33 maritime high-speed terminals
  - The mini-C tracking terminal
  - The aeronautical high-speed systems
  - The RAN for Inmarsat's future BGAN system
  - User terminals for the BGAN system



