

Intelligence, Precision and Robustness

Spreader functionality for Automatic Yard Cranes

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Automatic Yard Handling Needs

Productivity

Quality

Predictability

Reliability

Precision

Availability

"Book keeping"

Performance

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The Importance of Reliability



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> 1000 spreaders in automated yard cranes

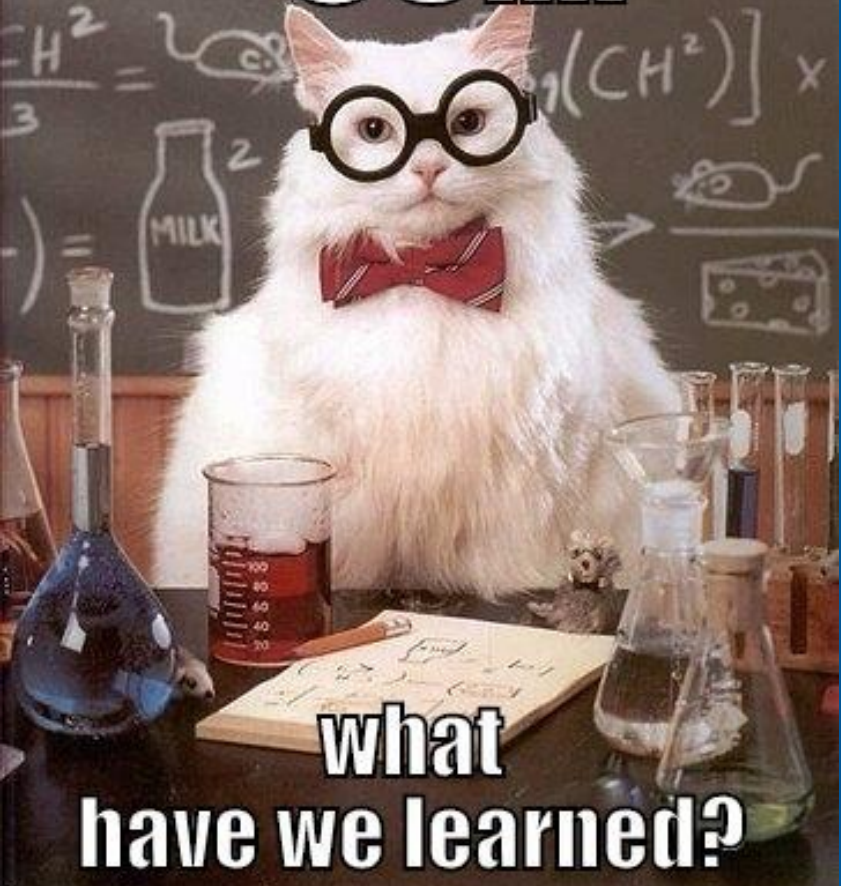
1. 6 EH132 & 3 EH8 in Thamesport, UK (1990)
2. 55 EH132S in Hamburg, Germany (2002-06)
3. 34 YSX45E in Virginia, USA (2006-07)
4. 128 YSX45E in Pusan, Korea (2007-08)
5. 26 YSX45 in Hamburg, Germany (2008-09)
6. 33 YSX45E in Algeciras, Spain (2009)
7. 31 YSX40E in Kaohsiung, Taiwan (2007-10)
8. 59 YSX45E in Khalifa, Abu Dhabi (2011-17)
9. 54 YSX45E in Barcelona, Spain (2011-14)
10. 8 YSX45E in Brisbane, Australia (2012)
11. 14 YSX45E in Sydney, Australia (2013)
12. 64 YSX45E in London, UK (2012-16)
13. 30 YSX45E in Los Angeles, USA (2013-15)
14. 72 YSX45E in Long Beach, USA (2013-15)
15. 52 YSX45 in Rotterdam, Holland (2013-14)
16. 22 YSX45E in New Jersey, USA (2012-14)
17. 18 YSX45E in Brisbane, Australia (2012-2013)
18. 14 YSX45E in Incheon, Korea (2014)
19. 26 YSX45E in Liverpool, UK (2013)
20. 20 YSX45E in Melbourne, Australia (2015-16)
21. 5 YSX40E in Panama (2017)
22. 14 YSX45E in Hamburg, Germany (2016-17)
23. 9 YSX45E in Vancouver, Canada (2016-17)
24. 53 YTS45E in Dubai (2017-18)
25. 36 YSX45E in Tangier, Marocco (2017-18)
26. 2 YSX45E in Dublin, Ireland (2017)
27. 8 YSX45E in Felixstowe, UK (2018)
28. 91 YSX45E in Virginia, USA (2017-20)
29. 10 YTS45 in Tangshan, China (2019)
30. 27 YSX40E and 3 YTS45E in Shenzen, China (2019)
31. 15 Yard spreaders in Qingdao, China (2018)



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So....



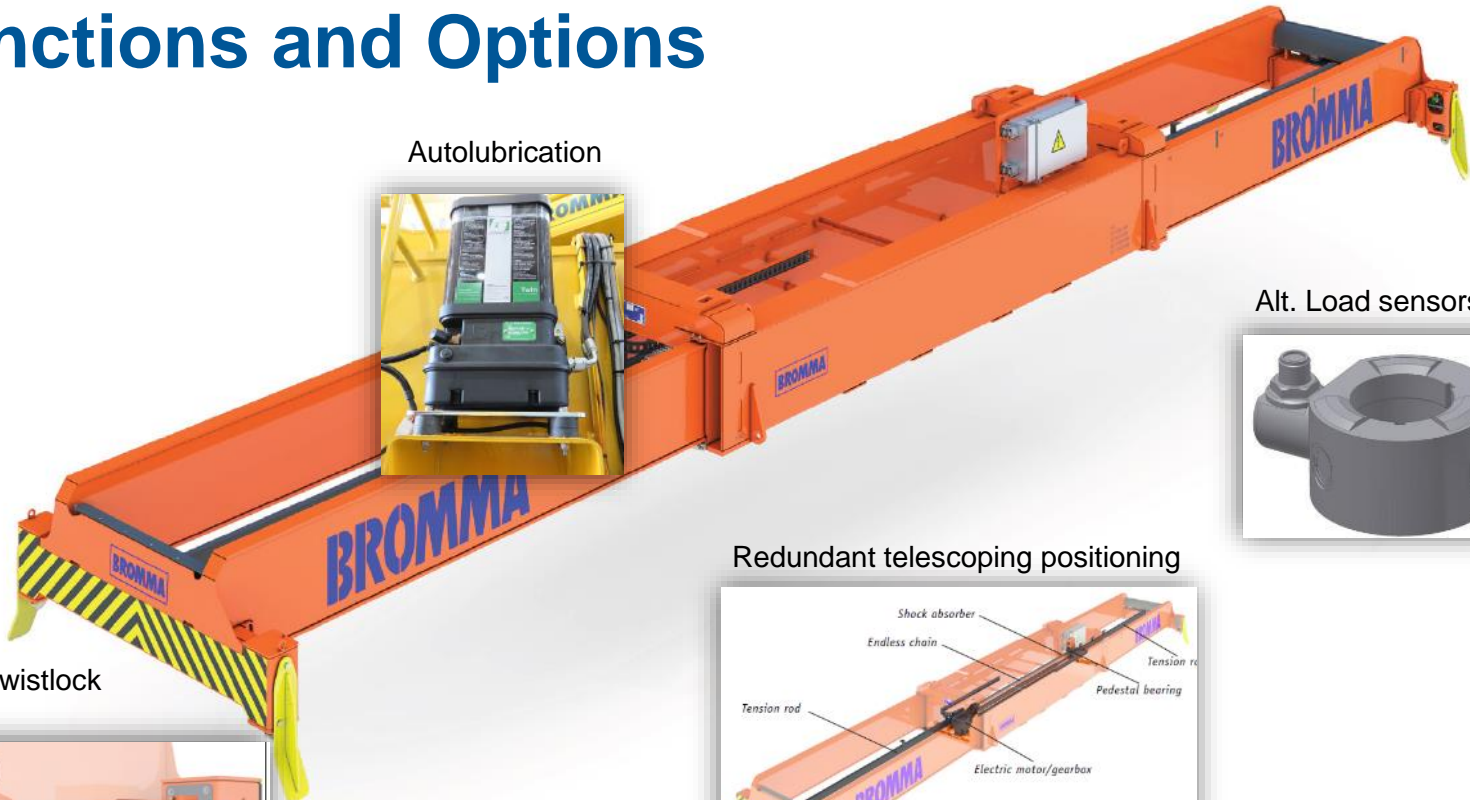
what
have we learned?

?

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Functions and Options



Autolubrication



"Landed hold"



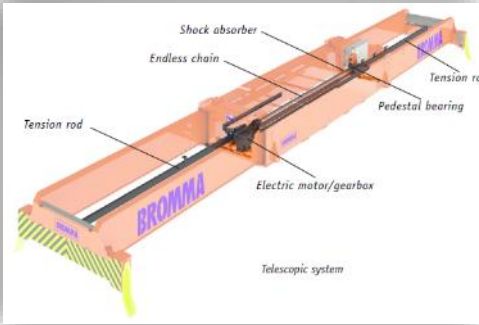
Alt. Load sensors

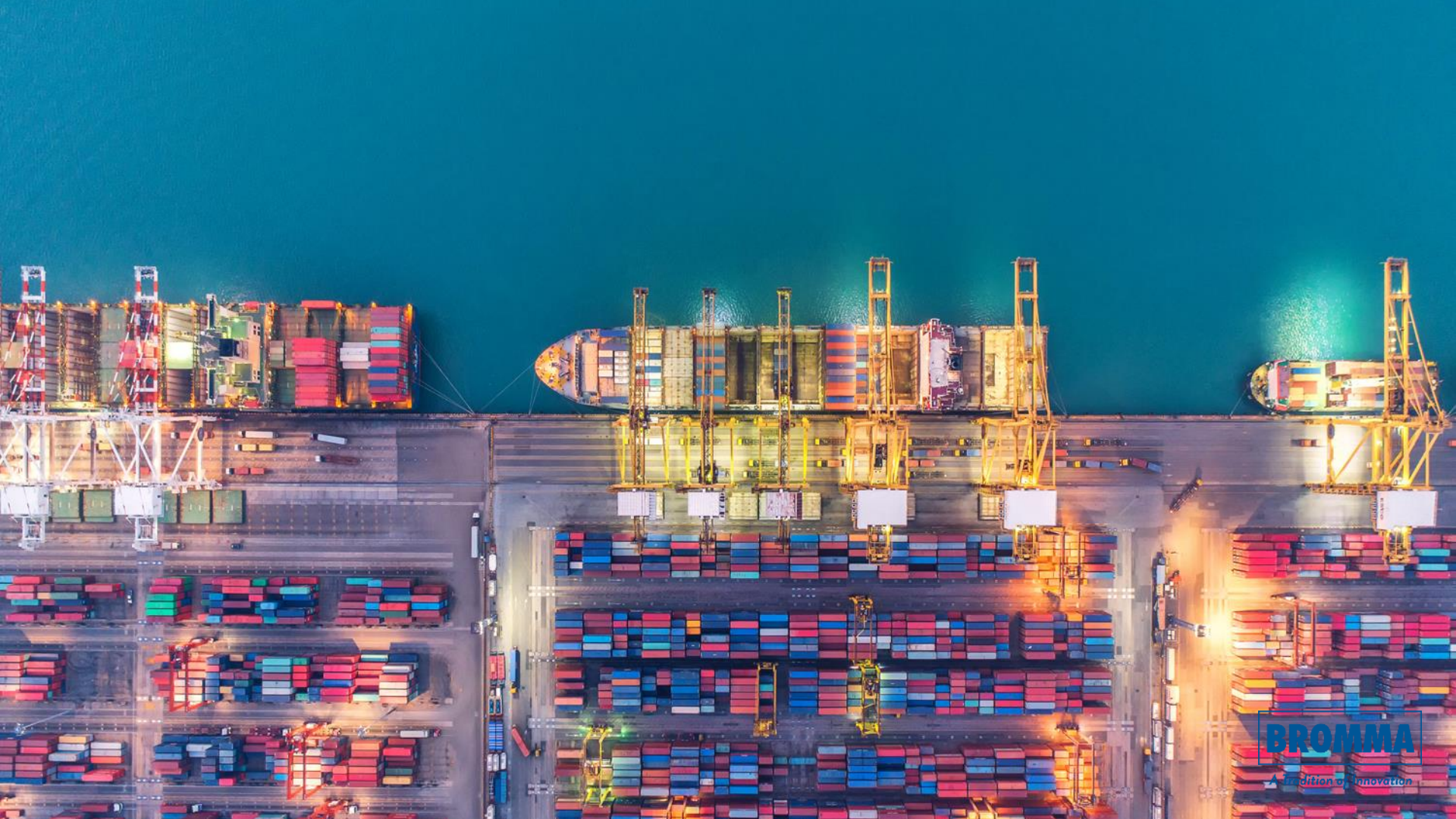


Stronger Twistlock actuators



Redundant telescoping positioning





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Bromma Hawkeye



- Hawkeye Streaming
- Hawkeye OCR

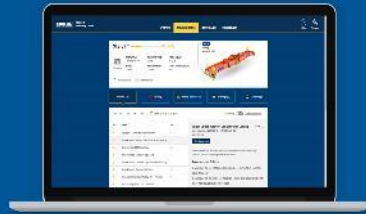
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BROMMA Spreader Monitoring System - SMS



Real time monitoring
of **spreader**
“**health**”



Issues and
recommended
solutions



Structured
overview of
planned
maintenance for
spreader fleet



Statistics on
performance,
productivity and
issues

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BROMMA Plus - Expect a little bit more

YSX45E Plus



Specification “+”

“Options” included as standard

Prepared for automation options

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Conclusions

- Equipment reliability is even more important in automated yard handling
- Specific spreader functions and options are highly recommended for automated yard cranes
- Hawkeye – Camera platform for all kinds of spreaders
- Spreader health Monitoring System
- Bromma Plus includes many of the recommended options as standard

Come meet us

www.bromma.com

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