

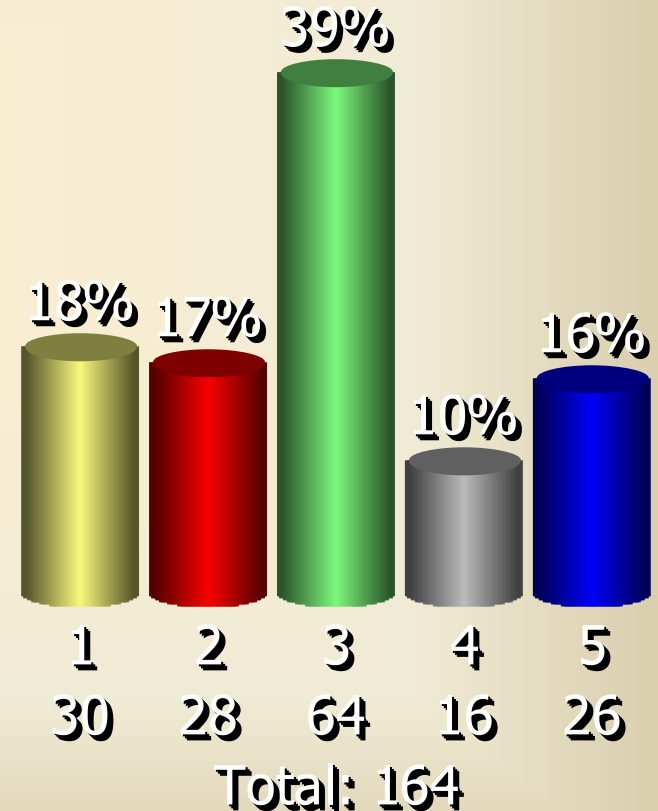


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

1) What is your industry segment?

1. Operator
2. Drilling Contractor
3. Equipment Manufacturer
4. Service Company
5. Other



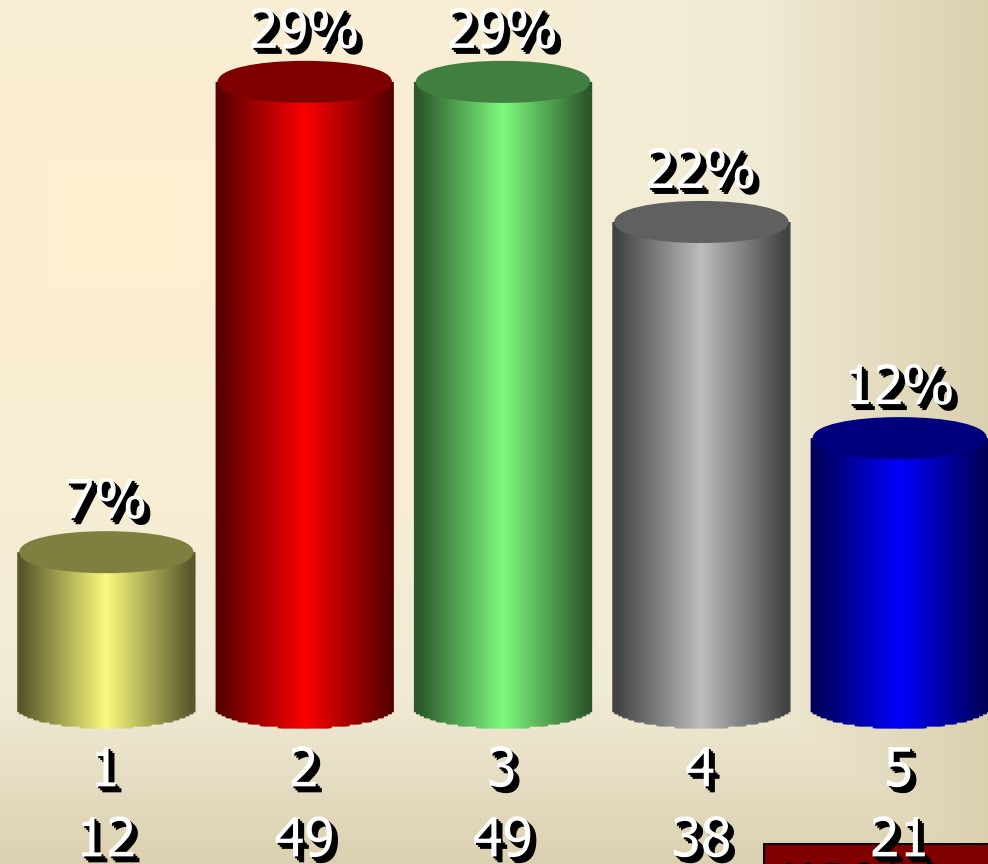


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

2) How old are you?

1. Under 30
2. 31-40
3. 41-50
4. 51-60
5. Above 60



Total: 169

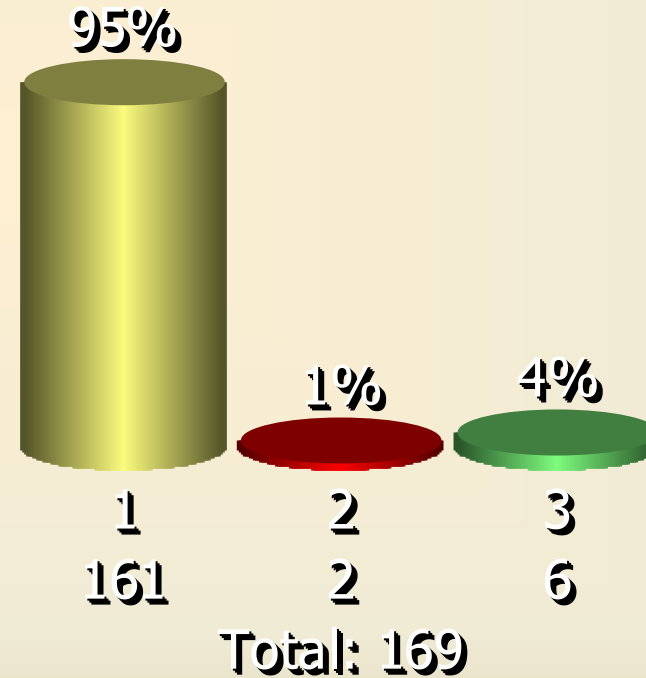


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

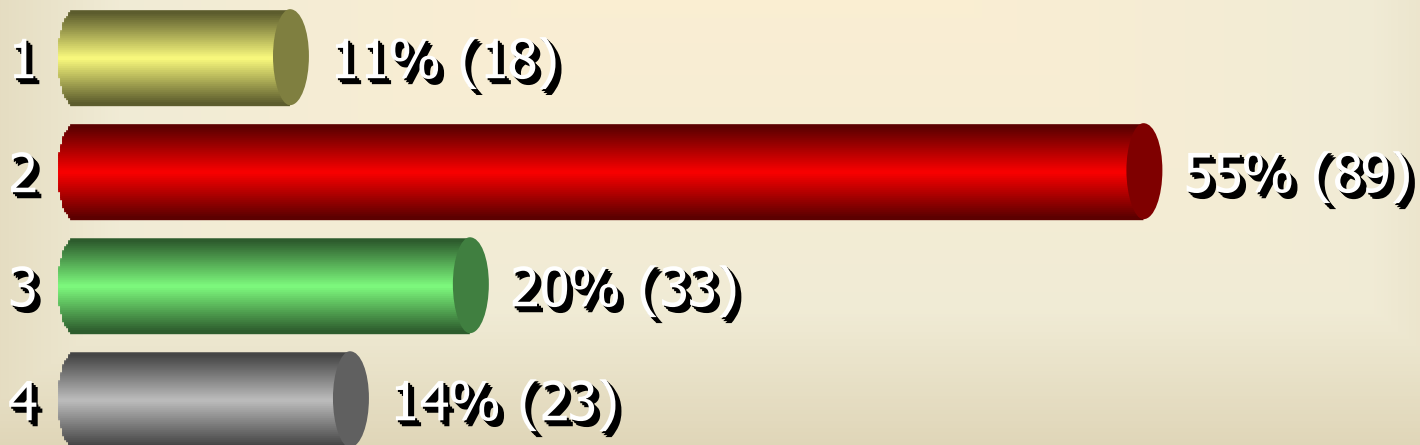
3) Do you think there is a buisness case for drilling automation?

- 1. Yes
- 2. No
- 3. Unsure



4) When will the big crew change end?

1. 5 years
2. 10 years
3. More than 15 years
4. Negligible effect – We will adapt and not see a big effect.



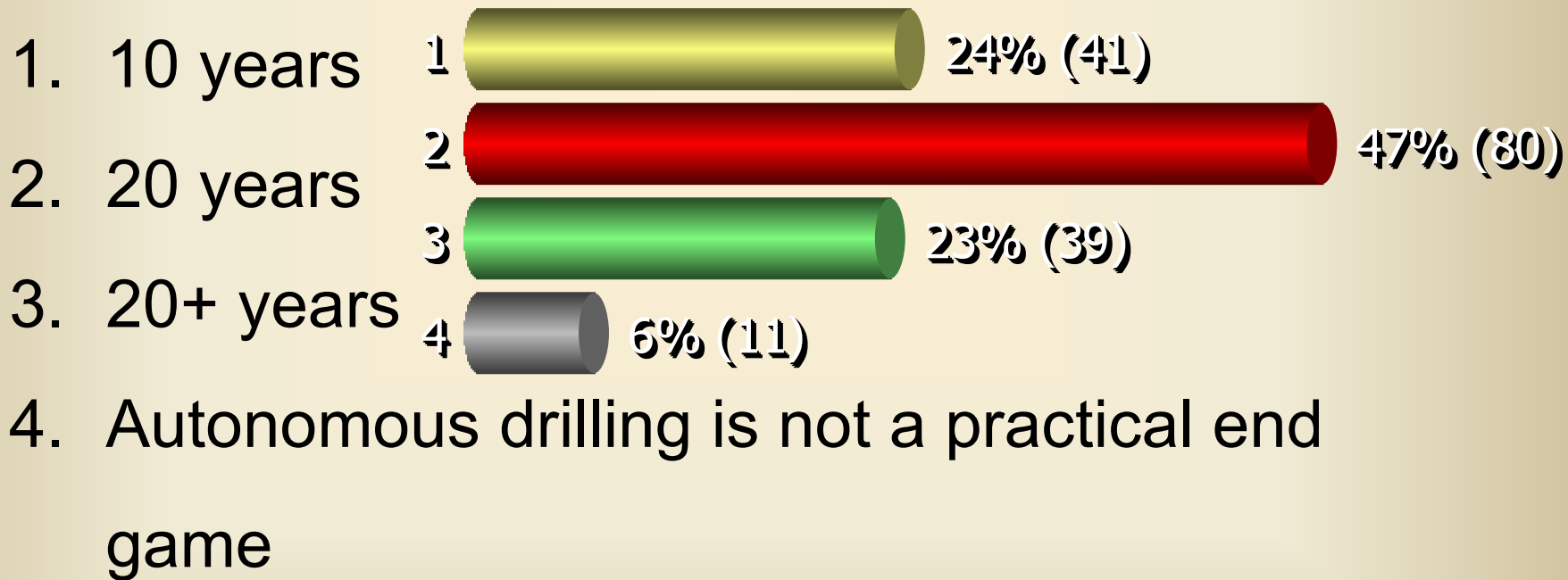
Total: 163



IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

5) When will fully autonomous drilling be commercialized with 50% market penetration?



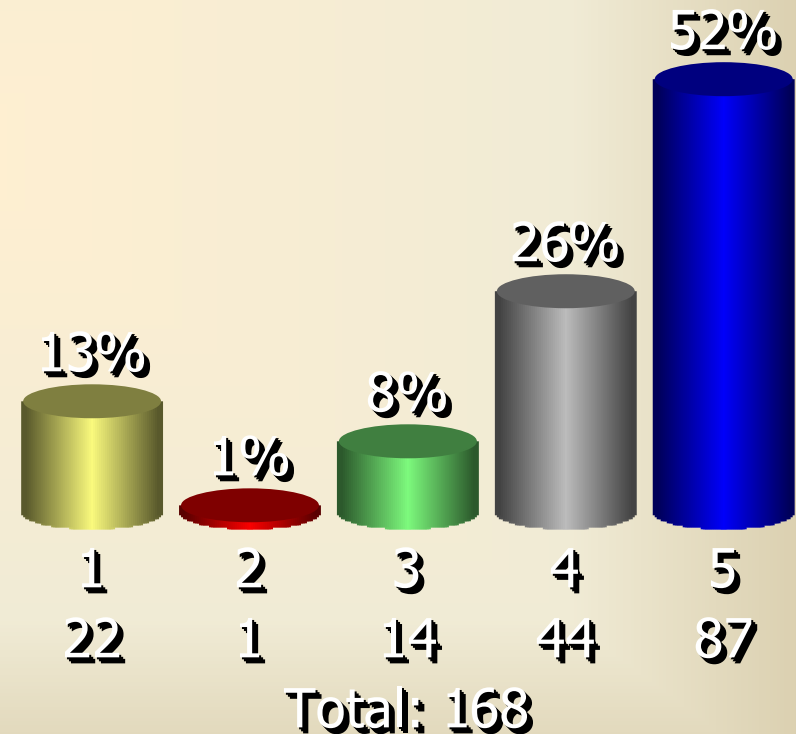


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

6) What are the primary causes of NPT

1. Controls
2. Dropped objects
3. Electrical failures
4. Mechanical failures
5. Human error



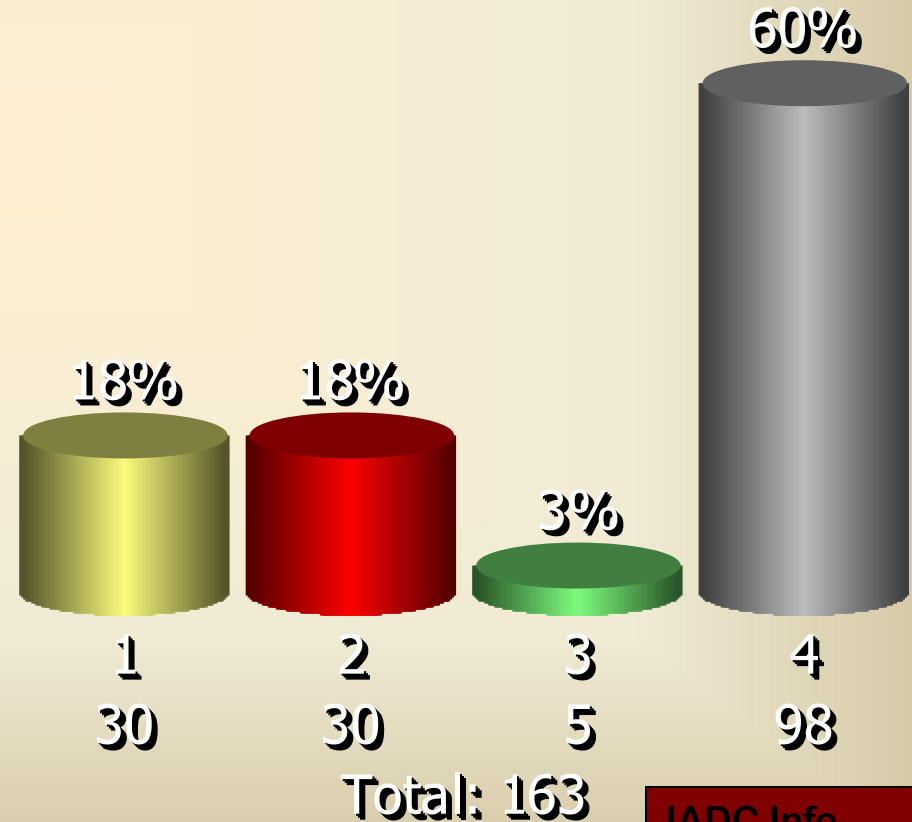


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

7) Which aspect of Well Construction deserves the larger investment in technology innovation and development?

1. Directional Drilling
2. Completions
3. Well Testing
4. Well Control



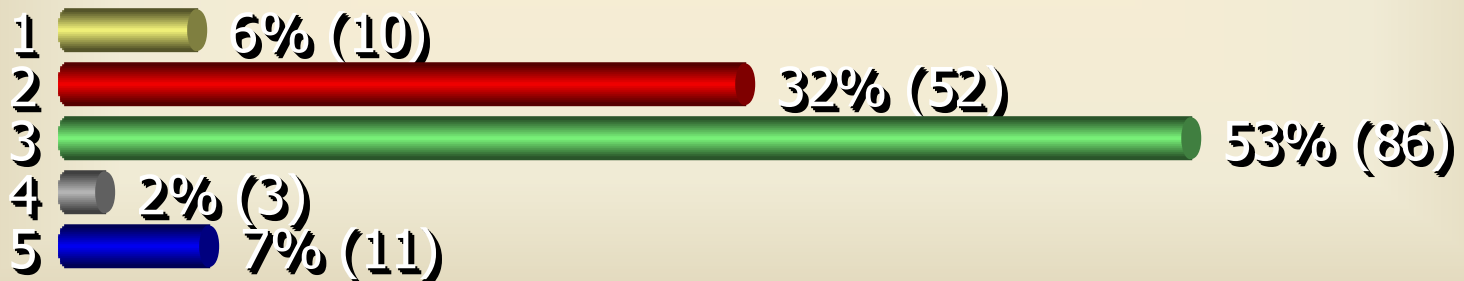


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

8) Without respect to 'cost to repair', what is the most frequent interruption to well construction?

1. Weather
2. Logistics of personnel, material or equipment
3. Equipment Maintenance/Repair
4. Regulatory inspection
5. Other



Total: 162

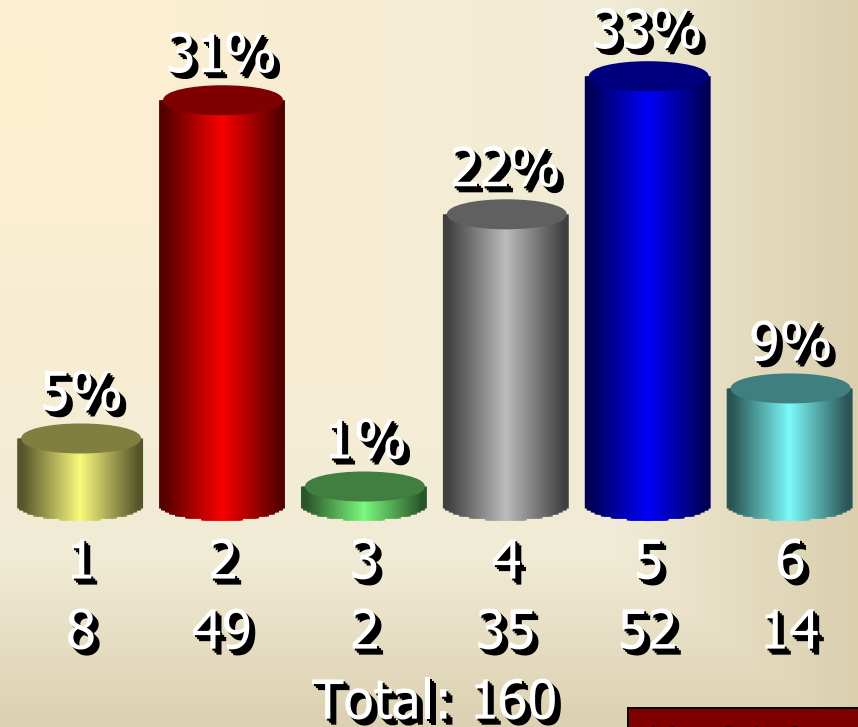


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

9) Without respect to 'cost to repair', which piece of drilling equipment creates the most frequent interruption?

1. Drawworks
2. Top Drive/Rotary
3. Compensator
4. Pipe Handling
5. BOP
6. Other



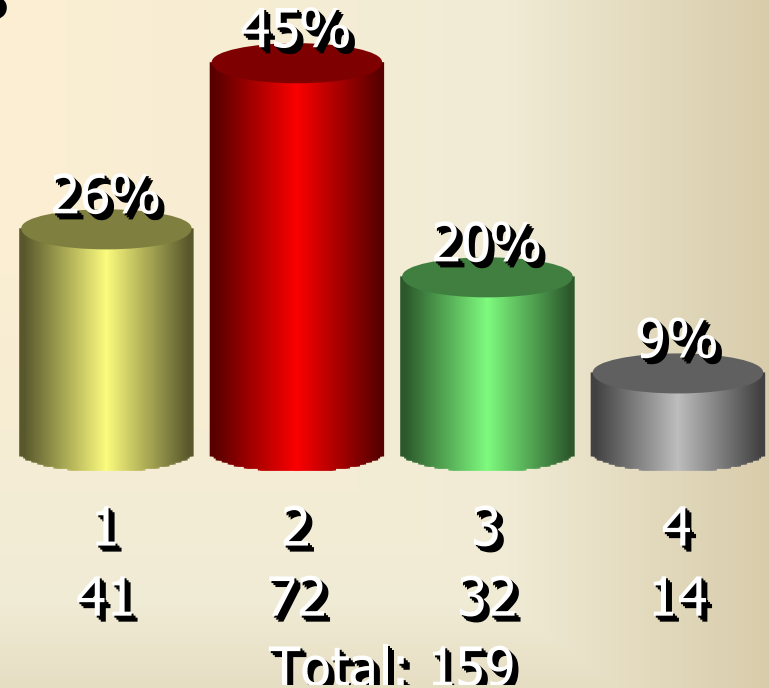


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

10) Recognizing the fact that Safety for both personnel and the environment is foremost in our industry conscious, which of the following do you feel provides the most universal benefit for the industry?

1. Reduced manpower
2. Reduced downtime
3. Reduced cost
4. It is technology for its own sake



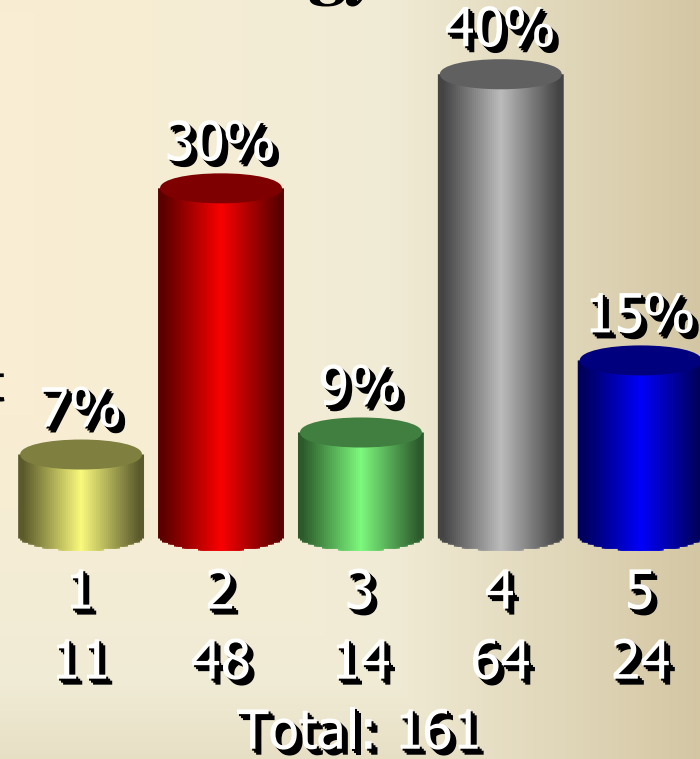


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

11) What is the MOST important factor for successfully commercializing an oilfield technology?

1. Validating market size
2. Field testing the product
3. The people commercializing the tech
4. Showing the tech's 'monetary' benefit
5. Enabling future technologies



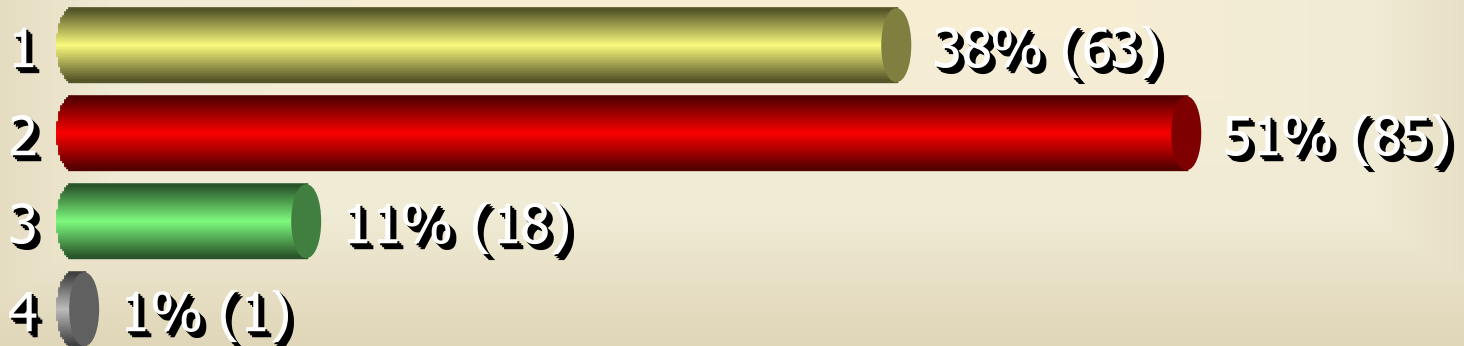


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

12) Do you think we will ever effectively drill the Arctic?

1. Definitely
2. Possibly, but severe challenges exist
3. Odds are against it
4. No way



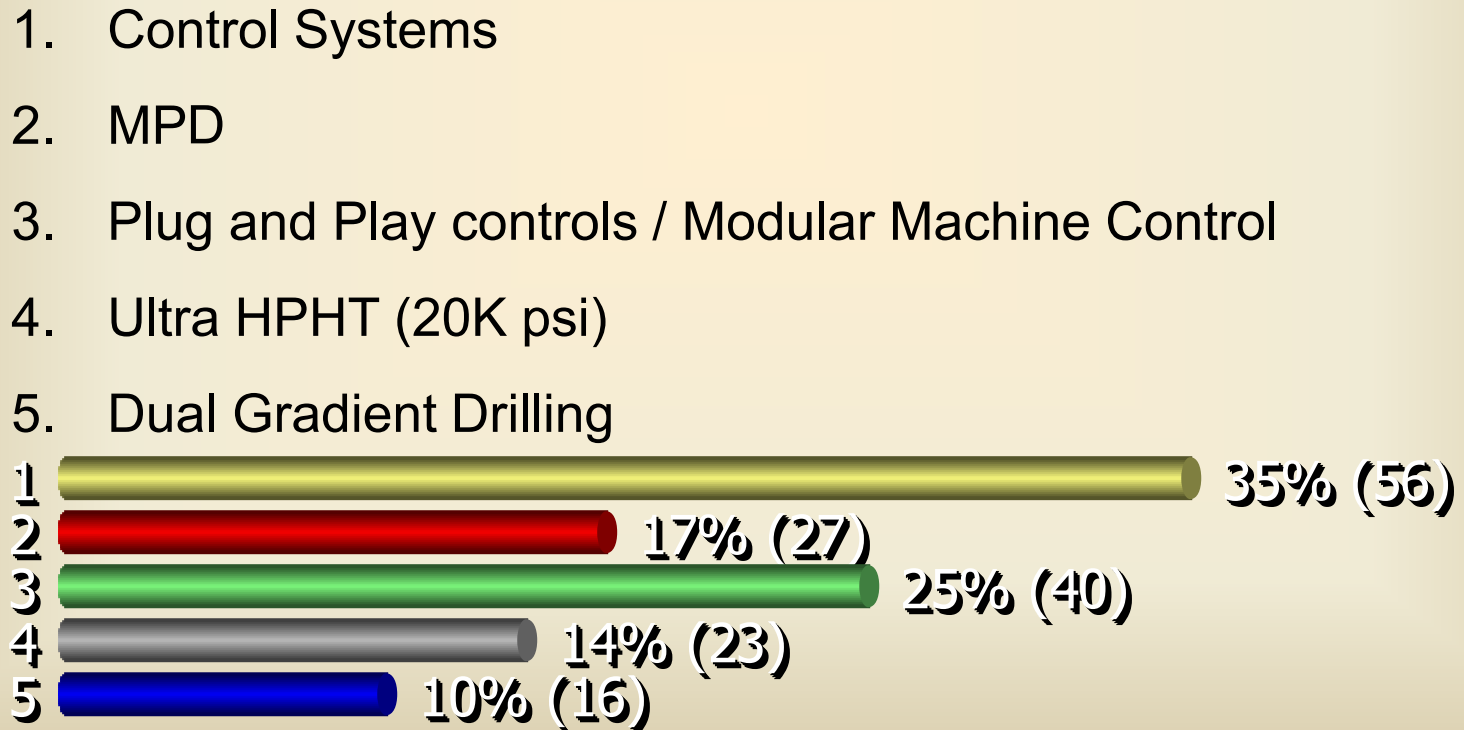
Total: 167



IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

13) Where is the biggest need for technology development?



Total: 162



IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

14) What workshop topic should the IADC Future Tech Subcommittee host next?

1. BOP Control System Technologies
2. Drilling Technology Commercialization
3. Completion Technologies
4. Casing Drilling Technologies



Total: 163

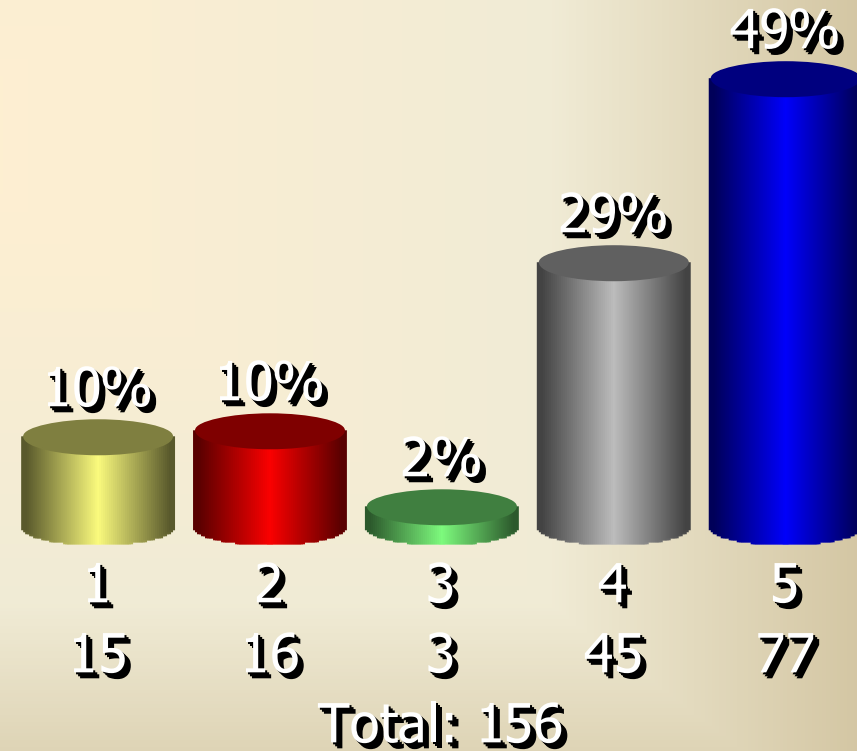


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

15) With respect to Blowout Preventers (BOP), which aspect is most in need of improvement and/or innovation?

1. Weight
2. Size
3. Numbers of RAMS
4. Shearing Capacity
5. Controls



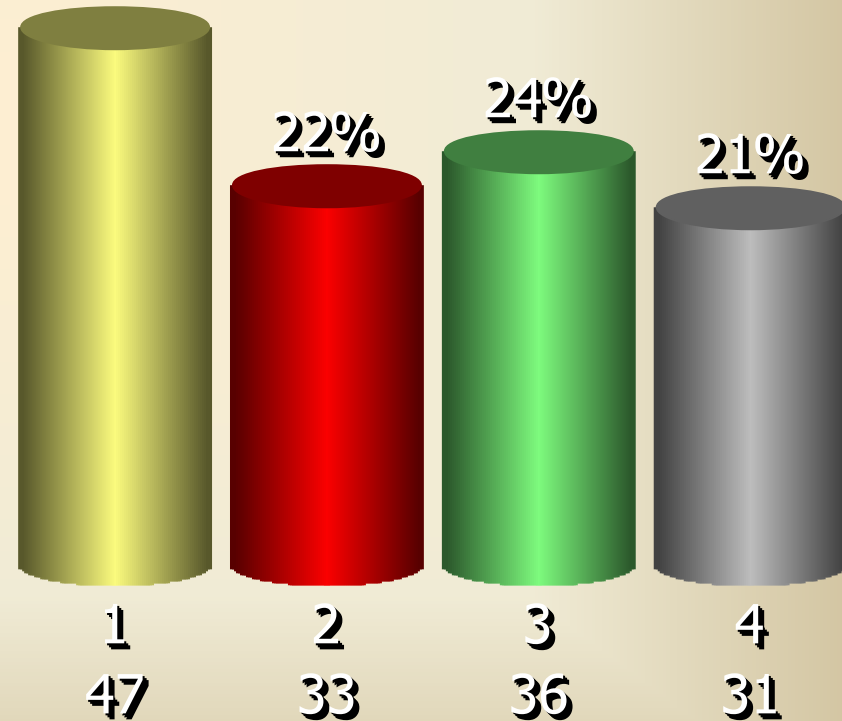


IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

16) Which of the following BOP Control System attributes merits the most need for improvement and/or innovation?

1. Communications
2. Hydraulic/Mechanical
3. Electronic/Electrical
4. Modularity



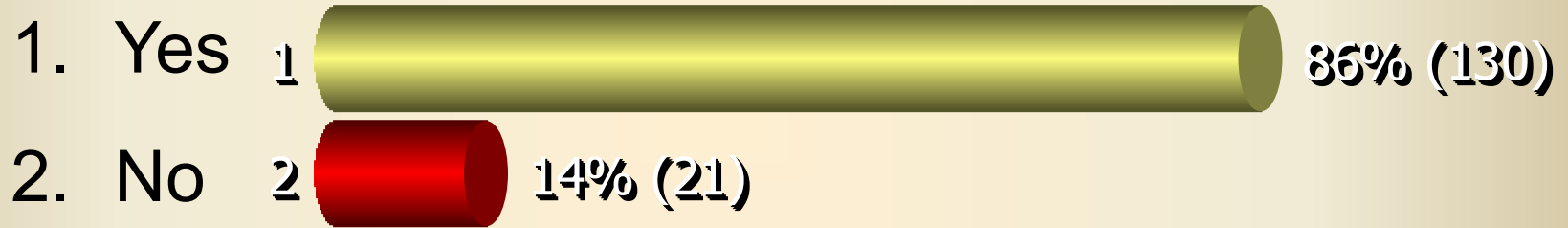
Total: 147



IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

17) Do you believe there is a need for an “open system” architecture for BOP control systems?



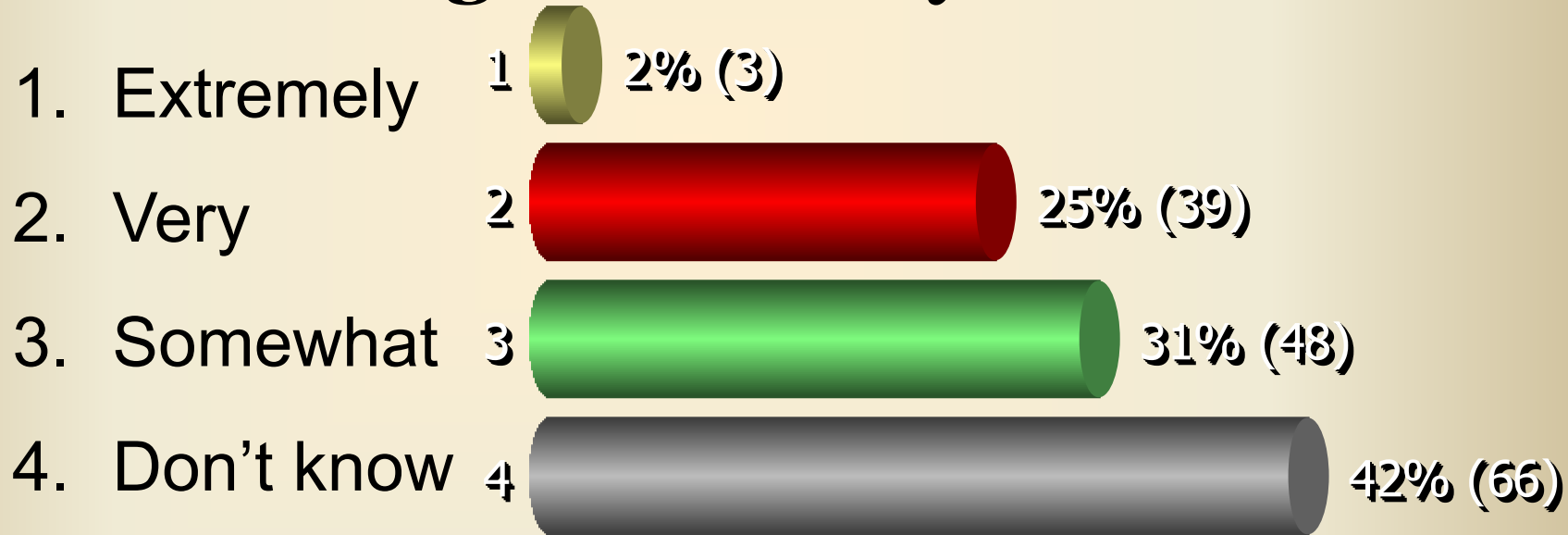
Total: 151



IADC Advanced Rig Technology Conference & Exhibition

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

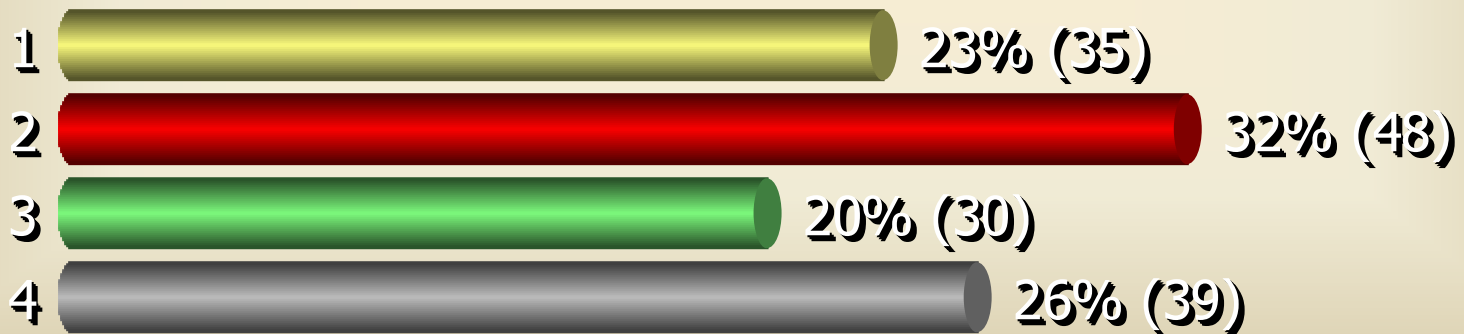
18) How secure is your control system digital security?



Total: 156

19) Do you understand the benefits of hardware in the loop (HiL) testing?

1. Yes, we always use it
2. Have heard about it but don't really understand it
3. Yes, but it costs too much
4. Never heard of it



Total: 152



IADC Advanced Rig Technology Conference & Exhibition

00:45

17-18 September 2013, Radisson BLU Atlantic Hotel, Stavanger

20) What project should the Drilling Controls Subcommittee work on next?

1. HiL Testing guidelines
2. Well Construction Steps
3. Digital Security
4. Certification – instrumentation
5. Knowledge Skills & Abilities

