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# The Importance of CEC Precision Testing for Future Formulations

22<sup>nd</sup> November 2011

Hotel Metropole, Brussels



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## *Agenda*

- Introduction to ATC
- Importance of CEC precision testing
- ATC / CEC Tomorrow



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## ***ATC Objectives***

- Provide a forum for all Petroleum Additive Companies within Europe to discuss developments of a Technical or Regulatory nature
- To develop, agree and publish industry positions where appropriate
- To ensure communications with other industry stakeholder groups
- To participate actively in industry test development and maintenance work to assure quality and fairness in product performance testing



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## *ATC Member Companies*



Baker Petrolite



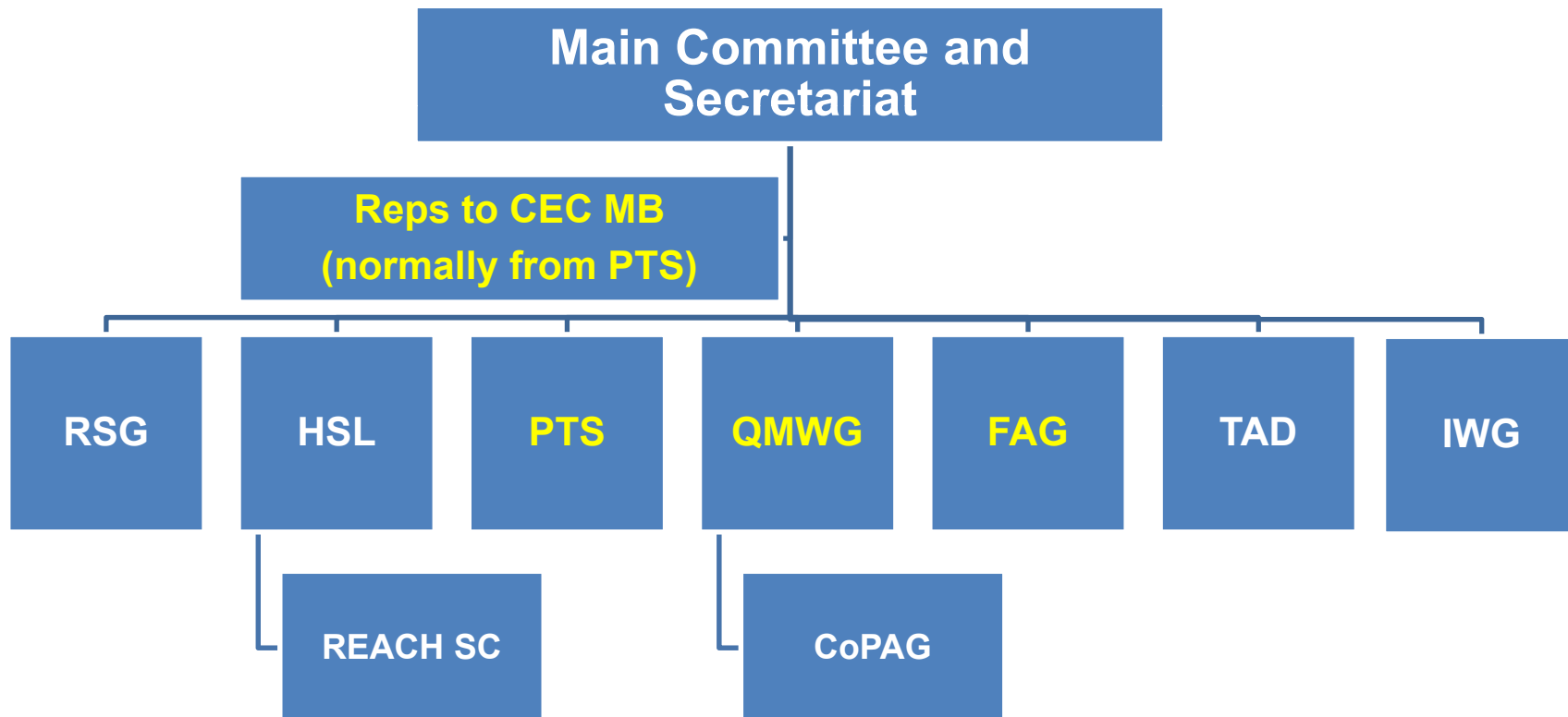
Oronite



CRODA



## Organisational Structure





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## ***ATC Guiding Principles***

- Compliance with European Competition Law
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- Decisions are taken by consensus
  - If consensus fails on a particular issue, ATC will not adopt a position
- Product performance should be determined through fair and quality testing
  - Support EELQMS, operate by industry CoPs
  - Support CEC / ASTM tests
  - Support performance testing over elemental restrictions



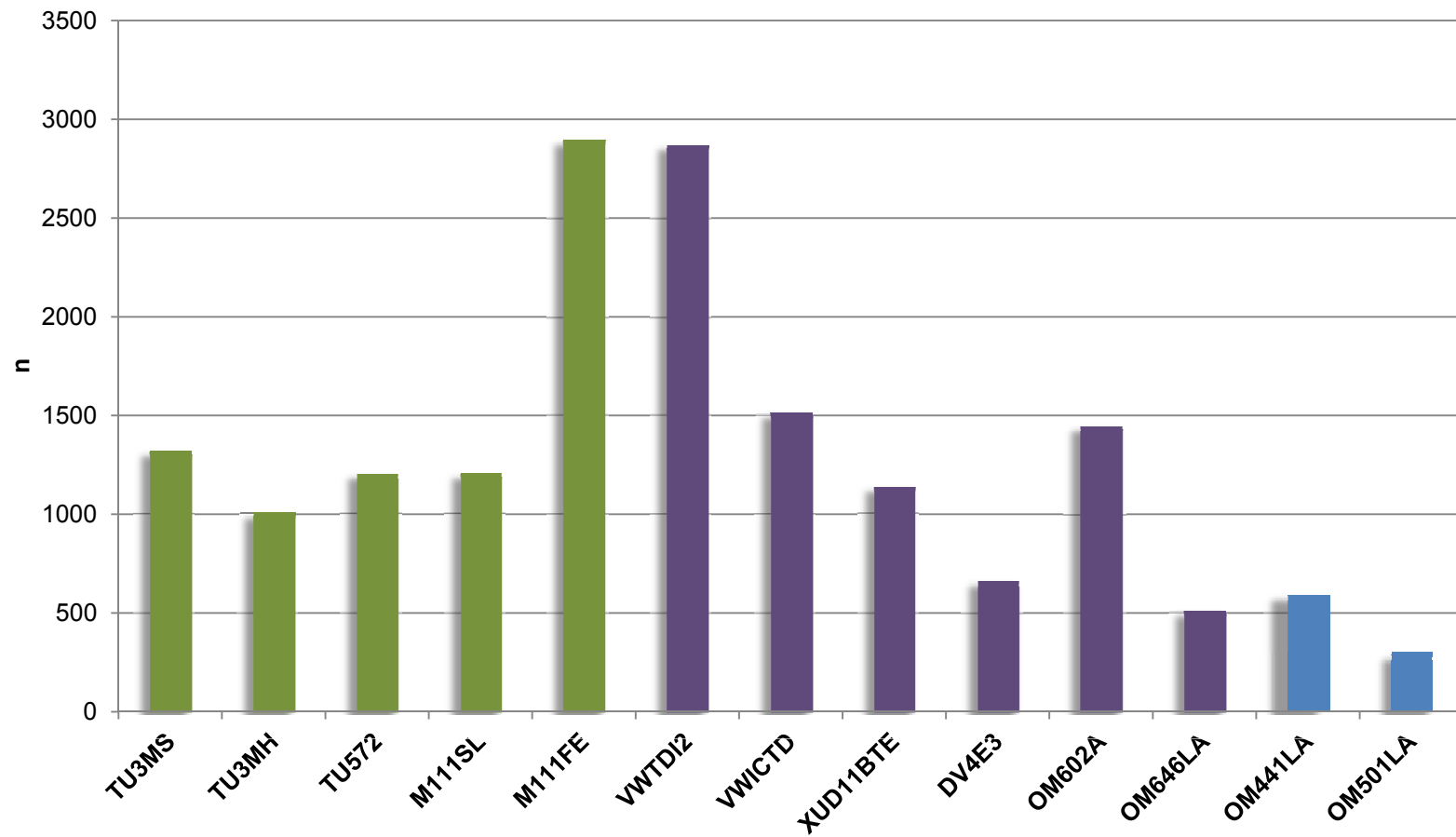
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## Registered Candidate Tests: 1995 - 2011

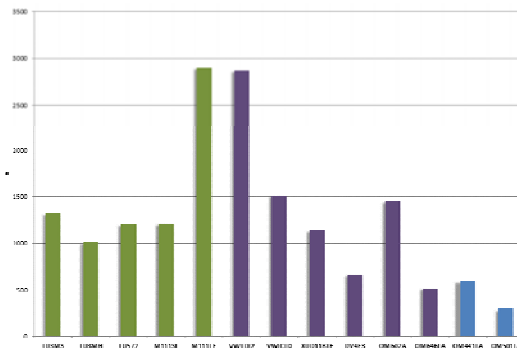




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## Industry Investment in CEC Crankcase Lubricant Tests



- About 16,700 registered candidates run in CEC engines since test registration began

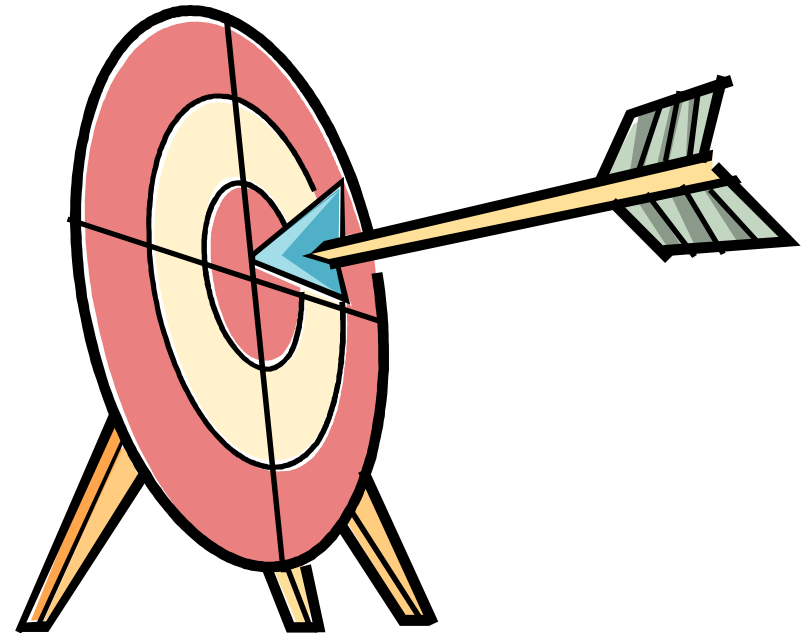
- Industry has invested ~ \$560 mio since 1995

Test Type	Part A Count	Average Unit Cost (\$)	Total Cost (\$)
TU3MS	1320	15,000	19,800,000
TU3MH	1005	20,000	20,100,000
TU572	1202	25,000	30,050,000
M111SL	1206	60,000	72,360,000
M111FE	2897	12,000	34,764,000
VWTDI2	2868	22,000	63,096,000
VWICTD	1512	15,000	22,680,000
XUD11BTE	1137	28,000	31,836,000
DV4E3	660	35,000	23,100,000
OM602A	1451	60,000	87,060,000
OM646LA	512	90,000	46,080,000
OM441LA	591	120,000	70,920,000
OM501LA	306	140,000	42,840,000
<b>Total</b>	<b>16667</b>	<b>642,000</b>	<b>564,686,000</b>

- Approximately two thirds by ATC member companies
- Doesn't include: fuels tests, driveline tests, reference tests, CEC bench tests, ASTM tests

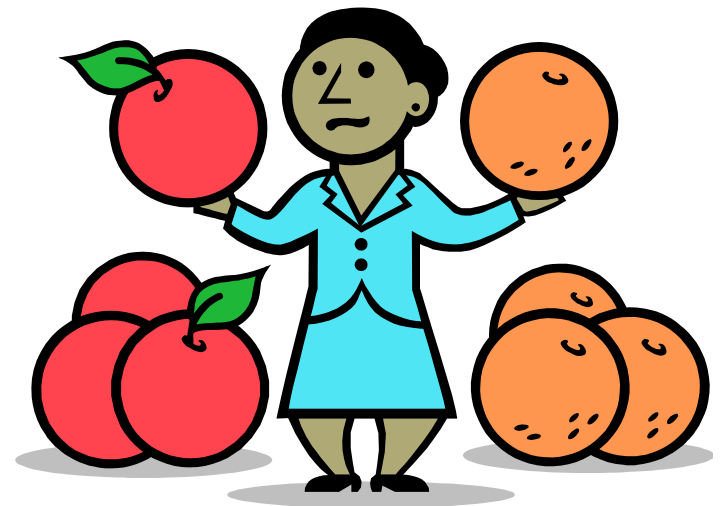
## *How do ATC members use CEC tests?*

- To qualify our products against industry specifications
- To compare our products against competitor formulations
- To develop new formulations that meet the evolving needs of the market
- To develop new components for formulations



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## *So, what do ATC need from CEC tests?*

- The ability to compare Product A to Product B (or Specification limit X) and to be able to say with confidence that performance (or quality) is the same or different
- To test Product A in Laboratories 1, 2, 3... - and get the same result each time
- To test our products in environments that are meaningful to those seen when used in a vehicle

**A level playing field on which to develop fit-for-purpose products**



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## *Big Issues for Our Industry*

- Globalisation
  - OEMs, Customers, Emissions Standards, the CO<sub>2</sub> challenge
- Powertrain and fuel pool diversification
  - Electrification, biofuels
- New requirements in emerging markets
  - **B**(razil)**R**(ussia)**I**(ndia)**C**(hina) influence
- REACH (and other chemical regulations)

**Cost and complexity of formulation development continues to increase**

## *What does this mean for CEC?*

- Reliable tests are better than cheap tests
- Unreliability can lead to:
  - Qualification of products whose true performance is worse than suggested by the result
  - Rejection of products that should be perfectly acceptable
  - Additional costs and time to develop products due to re-testing
- Important that Terms of Reference for Test Development Groups (TDGs) are clear, meaningful and agreed up front
  - ATC view is that this is working well currently

**Measure twice, cut once**

## ***What does this mean for CEC?***

- Effectiveness of TDGs and WGs is fundamental to the success of CEC
- TDGs and WGs need to be completely focussed on continuously improving Repeatability, Reproducibility and Discrimination of their tests
- TDGs and WGs need active participation by the relevant experts - from all Industry Associations - now and into the future

**IAs and Member Companies need succession plans for CEC support**

## *What does this mean for CEC (cont.)?*

- Good test quality metrics are fundamental to the success of CEC
  - $DP/\Delta \rightarrow Q_R$  and  $Q_r$
  - Test Monitoring
  - SDG has a big role to play here
- Ensuring that appropriate reference fuels and lubricants are available
  - RFG and RLG could play a more active role here

**Support Groups have a vital role to play in the success of CEC**

## *What does this mean for CEC (cont.)?*

- Appropriate testing tools need to be made available
- Tests need to be relevant and correlate to the field
- ACEA has done an excellent job of supplying engines for CEC to work with
  - Dependent on OEMs for continued support
  - Encourage CEC to find ways of increasing the OEM supplier base

**OEM support is vital for success of CEC**

## *Possible areas for improvement*

- ATC view is that, overall, CEC is doing a good job
- Continue to ensure ToRs are well-defined and adhered to by TDGs
- Perhaps RFG and RLG could play a more active role in CEC
- Suggest that Post Test Development reviews are conducted
  - What went well, what went badly?
  - Capture learnings and best practice for the future



## *Some questions for CEC*

- What is your role in the global test development market?
  - ATC recognises and supports CEC as a “World Class” test development organisation
- Should there be increased collaboration and sharing of tests (e.g. with ASTM)?
  - ATC does not want multiple tests across the globe that measure the same thing
- How will CEC ensure that the next generation of TDG, WG, SDG, MB...members is prepared to continue the good work?
  - Individual companies need to understand the importance of an efficient and effective CEC to their business



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## *...and finally*

- Congratulations to the New CEC on its 10 year anniversary
- ATC believes that CEC is working well – with perhaps a few small areas to work on
- The future is going to be even more challenging
- ATC looks forward to supporting and working with CEC for the next 10 years – and beyond