



# ATIEL's role in the European Lubricants Industry

**Promoting and safeguarding  
engine lubricant quality**

UEIL: Congress

October 2024

# Introduction to ATIEL

- ATIEL is a non for profit association (ASBL) representing the combined knowledge and experience of leading European and international engine oil manufacturers and marketers
- By drawing on the technical know-how of its membership, ATIEL promotes consensus on key technical, product stewardship and sustainability issues, ensuring that engine oils continue to contribute to improved wear protection, deposit control, lower emissions, and fuel economy CO<sub>2</sub> emissions efficiency
- Through ATIEL Code of Practice provides guidelines for development of lubricants that meet OEM performance requirements. <https://atiel.eu/>



# About the EELQMS

- The European Engine Lubricant Quality Management System (EELQMS) is a quality management system for automotive engine lubricants
- It has been developed jointly by ACEA, ATC and ATIEL
- Although the EELQMS is a voluntary system, it may be required by third parties and, in these circumstances, it may be mandatory
- Provides assurance of the quality of engine lubricants on the market that claim to meet the performance requirements of ACEA

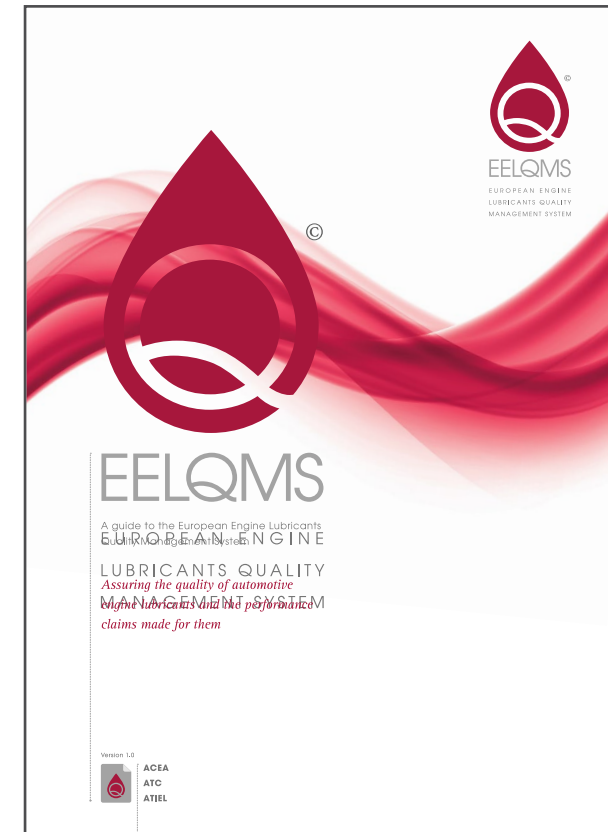


# EELQMS Structure



# Summary of EELQMS Guidelines

- Lubricant marketers developing engine lubricants in compliance with ACEA Oil Sequences shall carry out formulation development, blending and marketing in accordance with the **guidelines in the ATIEL Code of Practice and ATC Code of Practice**:
  - incorporating EELQMS guidelines in a quality management system (e.g., ISO 9001, or IATF 16949).
  - ensuring an independent audit of the lubricant development process
  - having Codes of Practice checklists signed off by an authorised company representative
  - blending products according to requirements of ATIEL Code of Practice, including accreditation to an auditable quality management system
  - signing a Marketers' Letter of Conformance and registering it with ATIEL



## Marketer's Letter of Conformance

Compliance with the EELQMS includes signing a **Lubricant Marketers' Letter of Conformance**:

- Required for ACEA performance claims
- Confirms compliance with EELQMS
- Signed Letters held by SAIL (EELQMS administrator)
- SAIL confirms relevant quality system is implemented by the market or manufacturer
- List of signatories publicly available on SAIL website
- Renewed every year
- Membership of ATIEL not required to be a signatory
- Letter of Conformance template available from SAIL website: [www.sail-europe.eu](http://www.sail-europe.eu)





# EELQMS - Multiple Stakeholder Benefits

## OEMs

- Controlled and consistent quality of engine lubricants
- Wide availability of lubricants meeting ACEA requirements
- Protection against warranty claims



## End user

- Trouble-free operation
- Confidence in lubricant performance claims
- Wide availability of lubricants of appropriate quality



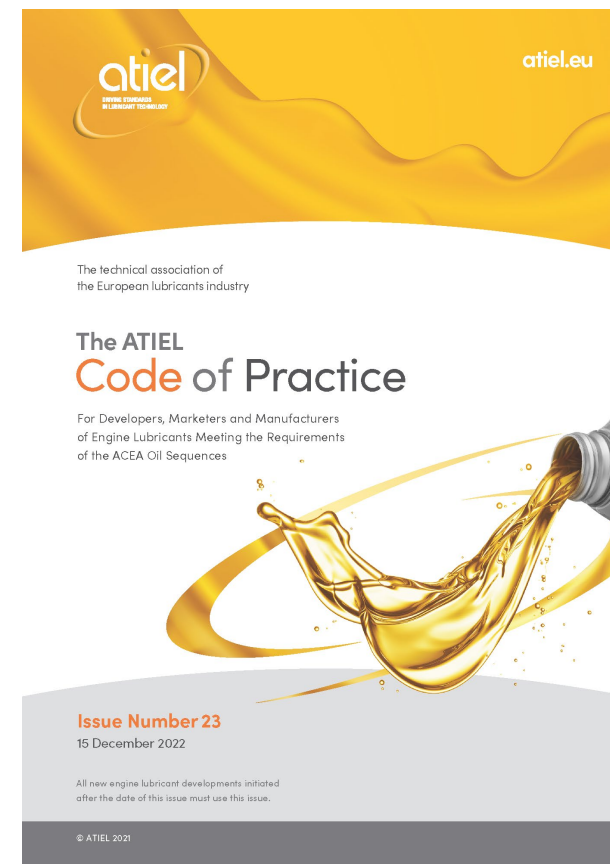
## Lubricant and additive industry

- Timely, cost-effective engine lubricant development
- Common approach & standards (level playing field)
- Formulation optimisation and controlled flexibility to ensure wide availability of appropriate quality lubricants



# ATIEL Code of Practice

- Key element of the EELQMS.
- Provides formulation guidelines that represent accepted industry best practices.
- Common approach and standards for the whole industry to follow.
- Enables lubricant companies to comply with EELQMS and the ACEA Oil Sequences.





# Code of Practice - **how does it help?**

- **Facilitates** efficient lubricant development by:
  - providing a documented, structured approach
  - eliminating unnecessary or duplicate testing
  - reducing product development time
  - making more effective use of resources
- **Provides** standard guidelines and auditable quality management systems to ensure consistent quality of lubricants.
- **Ensures** availability of appropriate lubricants worldwide (different base stocks, viscosity grades) through controlled formulation flexibility.



## ACEA Oil Sequences v Code of Practice

The ATIEL Code of Practice is updated regularly and in line with each evolution of the ACEA Oil Sequences.

The table below shows the ATIEL CoP issues in relation to the corresponding ACEA Oil Sequences issues.

ACEA Oil Sequences issue	ATIEL Code of Practice issue
2008	Issue 16
2010	Issue 17
2012	Issue 19
2016	Issue 20/21
2021	Issue 22/23
2022	Issue 23

# ATIEL Quality Surveys

- Enhance the overall robustness of quality management
- One of the most effective ways to measure levels of compliance with EELQMS
- Has become an ongoing activity and a core part of ATIEL's Quality Management Committee's initiatives
- Conducted and administered on behalf of ATIEL by SAIL



## Role of SAIL in EELQMS

- SAIL operates the registration system of the signatories of the Letter of Conformance and on behalf of ATIEL.
- SAIL is also responsible for ATIEL's product compliance monitoring programme.



# Products/brands

## Registration and Compliance

- Register with SAIL and submit a signed Marketers' Letter of Conformance
- Template letter available on SAIL website: [www.sail-europe.eu](http://www.sail-europe.eu)
- Registrants have exclusive right to use of the EELQMS quality logo on product documentation and labels
- Quality of products claiming compliance are checked regularly through SAIL's product survey programme, covering all LoC signatories
- Pay annual registration fee (€975/year)



# Quality Surveys - Overview

- The management of the Quality Survey is done by **SAIL**, the administrator of **EELQMS**
- The objective is to **test lubricants** for conformance against the ACEA specifications that are being claimed
- Lubricant brands tested are marketed by **signatories of the EELQMS Marketers' Letter of Conformance (LoC)**
- Where a product is marketed with an ACEA claim by a marketer that has not signed the LoC, the marketer is informed of the position of ACEA and encouraged to sign or remove the ACEA claim(s) from their products
- Lubricant marketer or Manufacturer must demonstrate a **suitable quality system is in place**
- Oil products are **purchased by independent contractor** from retail outlets and authorised distributors
- Objective is to test **three different samples** from each oil marketer, each three-year period



# Lubricants Manufacturers Responsibilities

*Before making ACEA performance claims lubricant marketers, who are responsible for all aspects of product liability, should ensure:*

- They have followed the EELQMS development programme guidelines and requirements
- If making a combined claim the lubricant formulation is fully compliant with the limits of ALL the engine and laboratory tests required for each individual ACEA engine category
- The claim is against a valid edition the ACEA Oil Sequences
- The claim is compliant with ACEA claims labelling language and terminology



# Some Real Examples!

1

NIVEAUX DE PERFORMANCE	
SAE	5W30
ACEA	A3/B3/B4/C3/C4
API	SM/CF
Renault	RN 0720
PSA	C3
CARACTERISTIQUES	

## Performance Levels

- ☐ API: SL/CH4
- ☐ ACEA: A1/B1/A3-B3/B4/E5
- ☐ VW 501.00/505.00
- ☐ MB 228.3; 229.5

3

ACEA	C2/C3, A3/B3/B4
ACEA (Meets Engine Test Requirements)	A5/B5
API (Meets Engine Test Requirements)	SL / SM

4

ACEA: C2-C3-A3/B4  
 API: SM/CF  
 BMW: LongLife-04  
 JASO: DL-1  
 MB-Approval: 229.31/229.51  
 VW: 504.00/507.00  
 VW: 501.01/502.00/503.00/  
 503.01/505.00/505.01/506.00  
 y diesel 506.01 (excepto motores  
 V10 y R5 TDI anteriores a Mayo 2007)

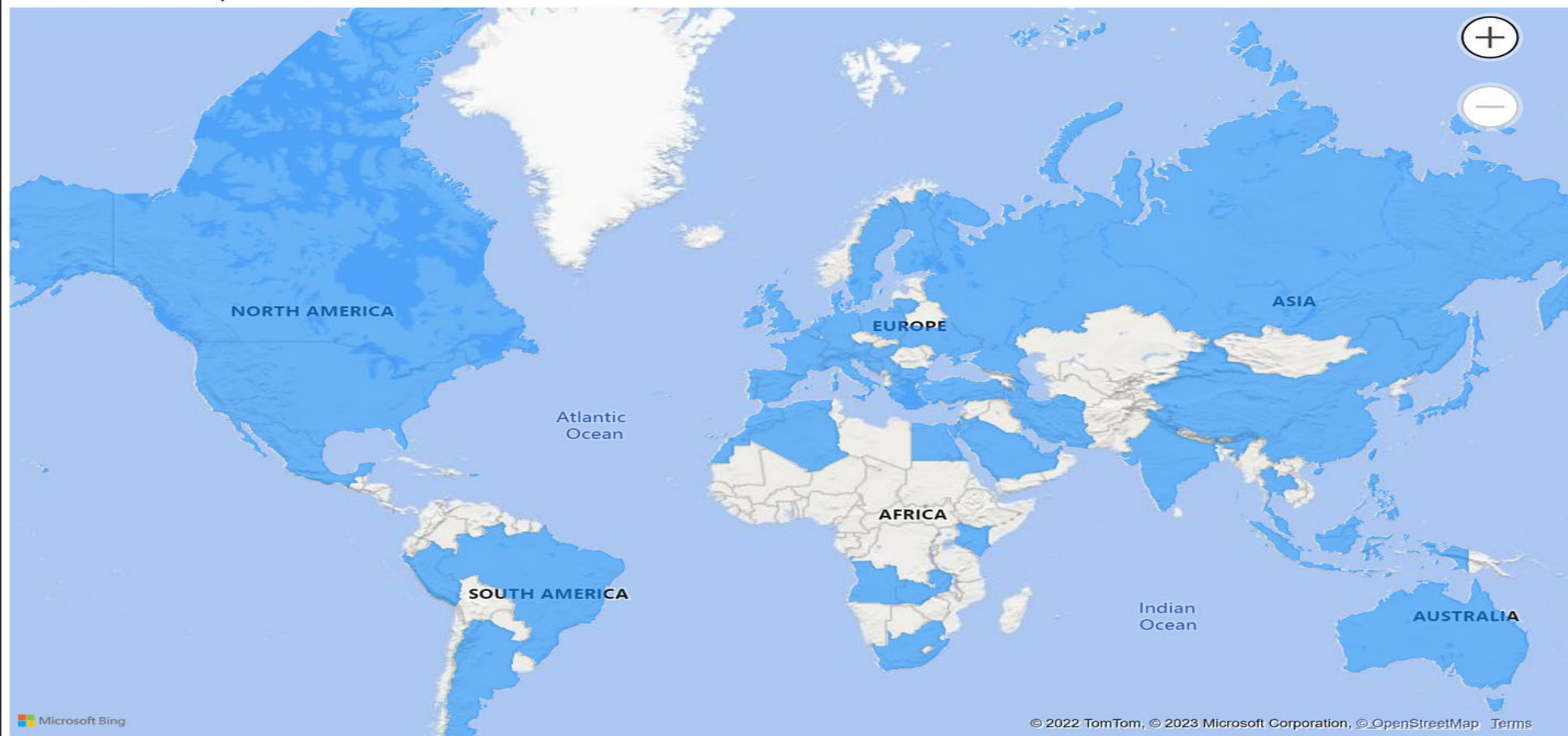
# Quality Survey: Results Feedback

- Analytical data results are reviewed by the ATIEL Quality Management Committee (Technical Expert Committee) versus the requirements of the ACEA Sequences
- **SAIL issues a report** to the marketer of the lubricant with an invitation to comment on the data, mandatory for any data that is seen to be outside the limits for the ACEA specification(s) claimed
- **In case of perceived non-conformance**, the oil marketer must respond with proposal for actions they will take to ensure the product is brought back into compliance
- **Feedback from the marketer** is analysed by the ATIEL Quality Management Committee in line with the requirements of the ATIEL Compliance Policy



### 3. SAIL - Number of Participants listed on website

Countries Participants listed on website





# EELQMS NEWSLETTER

## Base Oil supply

- Russian sanctions limits Group I
- Group I demand shifts to Group II
- Impact on availability and possible risk of substitution



## EELQMS QUALITY MANAGEMENT SYSTEM

Bulletin No. 5 - 31<sup>st</sup> March 2023

### The importance of the correct base oil to the finished lubricant

Base oils are critical to the effective functioning of a finished lubricant. Although the technology that enables the lubricant to perform as expected is contained within the additive package, that must be used at the correct treat rate and in accordance with the technology provider's instructions, the use of the correct base oil in the right quantities is equally as important.

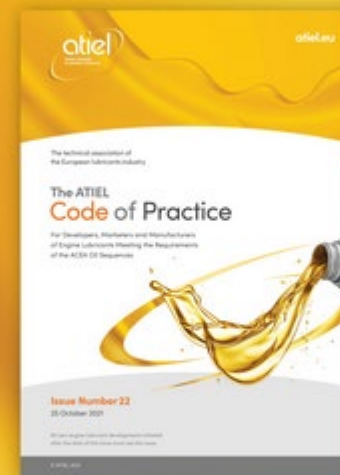
Base oil categorisation or categories are defined within guidelines established by the American Petroleum Institute (API). These guidelines characterise base oils by their viscosity index, sulfur and saturates content. Viscosity Index (VI) is a measure of viscosity change relative to temperature change where viscosity is resistance to flow. i.e. the lower the VI, the more the viscosity is affected by changes in temperature range.

API BASE OIL CATEGORIES				
Base Oil Category	Sulfur (%)	Saturates (%)	Viscosity Index	
Group I (solvent refined)	> 0.03	and / or	< 90	80 to 120
Group II (hydrotreated)	< 0.03	and	> 90	80 to 120

# VIDEO TRAINING

## Improves knowledge and awareness

- Increase in non native English speakers
- First time signatories to LoC support
- Supplemented by wider material in 2024

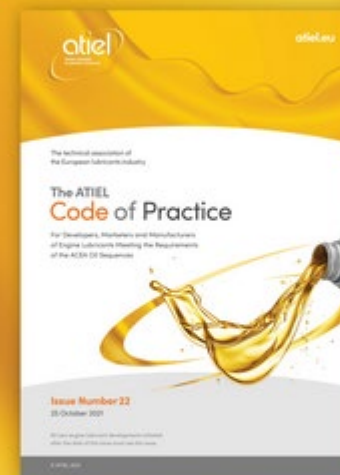




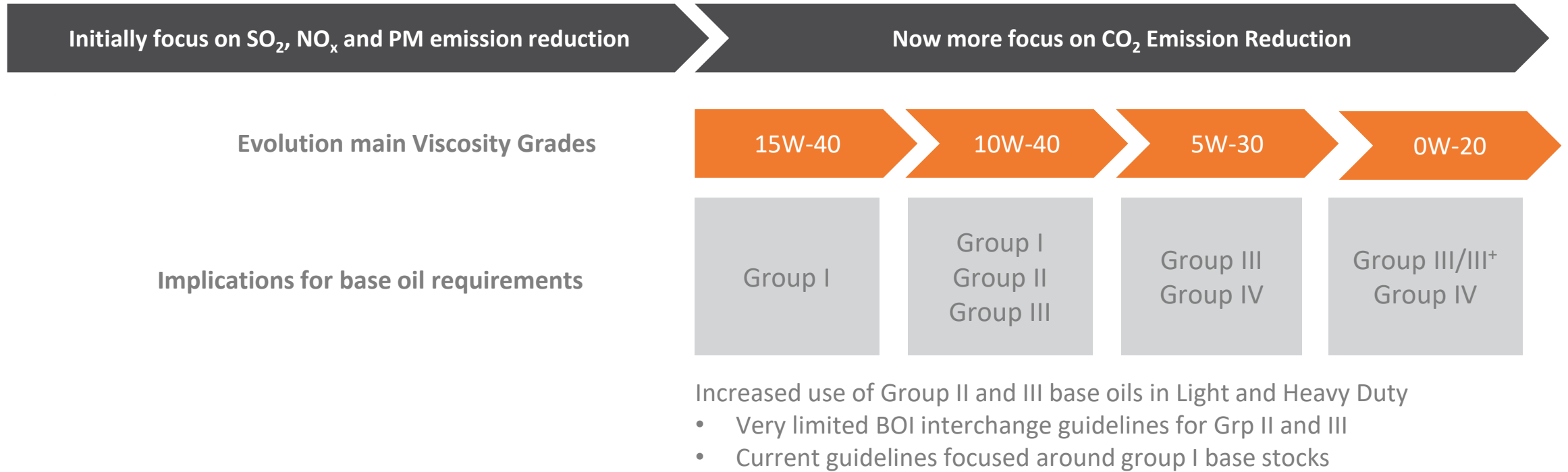
# NEW CODE OF PRACTICE

## Code of Practice 2024

- Updates ACEA 2023 LD sequences
- Launched Q4
- Proposal to embed certificated quality management system in Lubricant Developer, Manufacturer and Marketer responsibilities



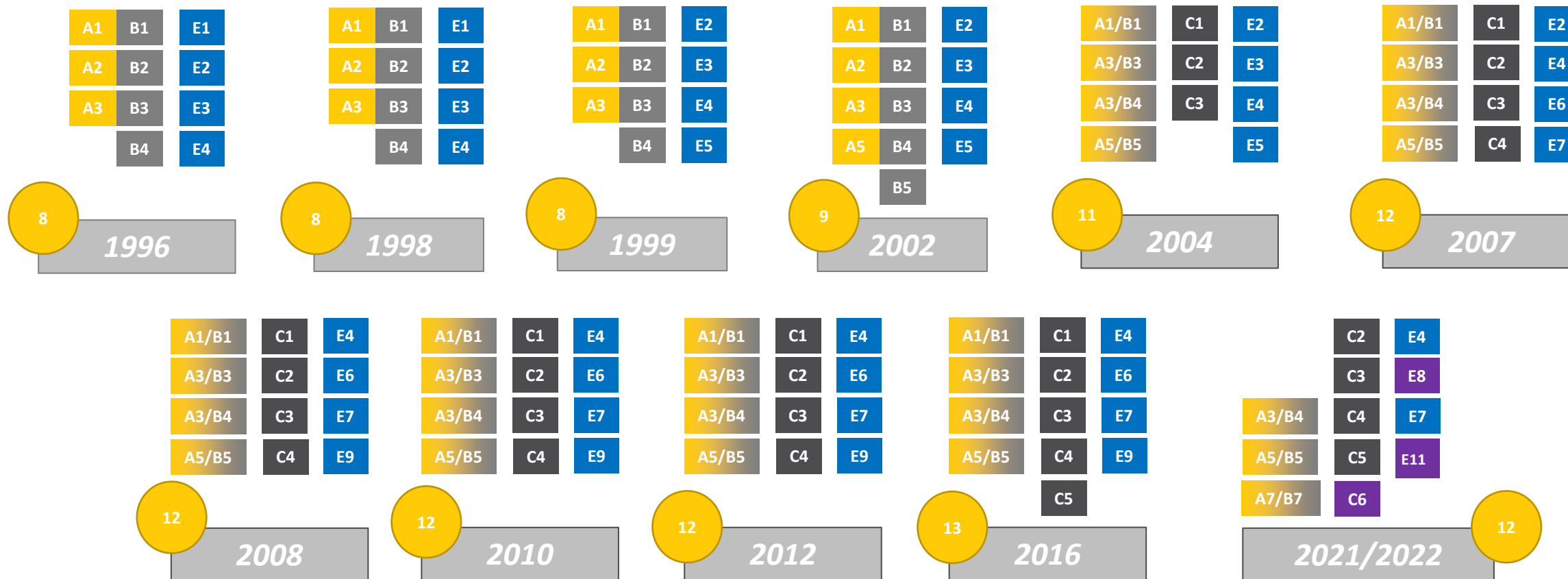
# Engine Oil Specifications **driven by Emission Legislation**



**Interchange Guidelines did not hold pace with specification evolution**

# The Complexity Challenge

From 8 to 12 categories



# Summary

- ❑ Engine oil specifications have evolved with emissions legislation
- ❑ Today the level of bench and engine testing ensures we have robust oils in the marketplace
- ❑ Viscosity Grade Read Across allows some testing waivers, based on statistically designed matrix of testing of current engine oils
- ❑ Some level of BOI is permitted but guidelines need to be followed carefully
- ❑ Performance data sets define the level of testing conducted on the finished lubricant
- ❑ Base oil quality assurance requirements ensure that base oils are produced to a consistent quality
- ❑ *Adherence to these guidelines help oil marketers ensure that robust quality oils are provided for the engine oil market*

ATIEL Code of Practice ISSUE 23 was released on December 2022



EUROPEAN ENGINE  
LUBRICANTS QUALITY  
MANAGEMENT SYSTEM

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