Driving Harmonisation into the Future

UNECE 1958 Agreement
Impact Assessment of the draft proposal
for Revision 3 of the Agreement

Preview of Final Results

Presentation to the Motor Vehicle Working Group
Brussels, 5 October 2015
This presentation anticipates in a non-technical form the **final results** of the work PwC executed to assess the impact of the draft proposal for **Revision 3 of the UNECE 1958 Agreement**.

It refers and completes the content of the Interim Presentation given on 19 May 2015.

As such, **its content is strictly confidential** and may be incomplete without oral presentation, implying a significant risk of misinterpretation by any Non-Authorised Reader.

We make reference to the content of our Final Report, which will be the only document including our findings and conclusions on the project.
Content

1. Project Overview (reminder)

2. Key Facts, Figures and Questions

3. Conclusive Remarks (executive summary)
Project Overview (reminder)

1. Driving Harmonisation into the Future
PwC

5 October 2015
About Project Background
Quality of air, road safety and free trade are long-lasting EU objectives

EU is committed to provide its citizens with quality of air and road safety, as well as to improve competitiveness of its industry players in the automotive competitive arena.

UNECE 1958 Agreement pursues technical harmonization as an enabling factor paving the way to the above.
About Project Aim and Scope

Draft Proposal for Revision 3 of UNECE 1958 Agreement

To assess the impacts of Revision 3 for the EU automotive industry, in relation to the envisaged changes, such as:

- New CPs (joining the Agreement in light of its greater attractiveness) leading to increased free trade flows?
- Other impacts on the competitiveness of the EU automotive industry?
About Project Methodology
A Phased and Balanced Approach to Combine Quantitative Analysis with Expert Industry Insights and Stakeholders' Views

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
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</thead>
<tbody>
<tr>
<td>Signature of the contract – Kick off meeting</td>
<td>Interim Report (Draft)</td>
<td>WP.29 Meeting</td>
<td>Assess</td>
<td>Final Report (Draft)</td>
<td>Presentation of the results</td>
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</tbody>
</table>

**Mobilise**
- Select/engage Stakeholders
- Actionate relevant knowledge

**Scrutinise**
- Gather qualitative info
- Describe industry trends
- Assume Impact Assessment Key Performance Indicators
- Stakeholder interviews performed
- Interim report drafted

**Tuning**
- Review draft Interim Report
- Prepare WP.29 Presentation
- Refine Impact Assessment model
- WP.29 presentation prepared
- WP.29 consultation executed
- Task 1 previewed

**Assess**
- Run Impact Assessment and scenario planning
- Review qualitative analysis
- Refine Impact Assessment results
- Descriptive analysis/Impact Assessment executed
- Task 1 refined
- Task 2 and task 3 previewed

**Tuning**
- Review draft final report
- Prepare delivery to EC
- Refine delivery to Stakeholders/WP.29
- Task 1 delivered
- Task 2 delivered
- Task 3 delivered
- Task 4 delivered

Refinements directly proposed at Kick-Off Meeting (i.e. without preliminary analysis) to gather relevant inputs.

Follow ups to be proactively managed during accelerated project execution.

Key for Engagement Tasks:
- Task 1: descriptive analysis of automotive sector
- Task 2: impact assessment of draft proposals for Rev 3
- Task 3: executive summary
- Task 4: presentation of results

Driving Harmonisation into the Future
PwC 5 October 2015
**About PwC**

A global leader in providing professional services to the automotive industry

- A multi-disciplinary professional network (Assurance, Consulting, Deals, and Tax & Legal services)
- A global industry-focused practice of professionals specialised in automotive
- A distinguished research team (PwC Autofacts) providing industry players with analysis and forecast
- A project team with impact assessment methodology and relevant industry experience
Key Facts, Figures and Questions
New CPs joined the Agreement, but...

We reviewed 1998-2013 period and 14 Recent Joiners’ adoption paths

2. Discussion on (perceived, so far) critical issues

Recent Joiners to UNECE 1958 Agreement: technical regulations’ adoption paths

Regulations subscribed yearly since the adhesion

1-17 (years)

Source: UNECE, PwC Analysis

UNECE 1958 Agreement Review - Status report | Draft for discussion
PwC
26 February 2015

5 October 2015
New CPs joined the Agreement, but…

Was there a ‘norm’ in their Technical Regulations’ adoption paths?

It could be observed that the bigger the vehicle park in use and the local assembly volumes are, the lower seems to be the number of technical regulations adopted by each Recent Joiner.

- Local technical requirements and administrative procedures to achieve homologation are privileged by CPs with more “mature” end-markets.
New CPs joined the Agreement, but...

What’s the significance of these varied adoption paths?

Each CP is granted the right to decide whether or not to adopt each single technical regulations, thus potentially determining lacking convergence of local regulatory frameworks for vehicle type-approval

- Jeopardised adoption paths limited free trade achievements and administrative/R&D cost savings
New CPs joined the Agreement, but...

Table 1 - Summary of the results of the analyses

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Import international flows</th>
<th>Export international flows</th>
<th>Import international flows</th>
<th>Export international flows</th>
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<td></td>
<td>Hypothesis a</td>
<td>Hypothesis b</td>
<td>Hypothesis c</td>
<td>Hypothesis d</td>
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<td>UNECE 1958 Agreement influences the levels of European imports</td>
<td>0.064</td>
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<td>(0.925)</td>
<td>(0.892)</td>
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<td>Technical Regulations adopted</td>
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<td>(0.141)</td>
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<tr>
<td>Contracting Party GDP</td>
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<tr>
<td>(0.031) **</td>
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<tr>
<td>EU GDP</td>
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<td>-2.064</td>
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<td>(0.031) **</td>
<td>(0.039)</td>
<td>(0.028)</td>
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<tr>
<td>Exchange rate from EUR to local currencies</td>
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<tr>
<td>(0.027) **</td>
<td>(0.039)</td>
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<tr>
<td>EU inflation rate</td>
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<td>-3.55</td>
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<td>(0.392)</td>
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<td>R²</td>
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<td>Number of observations</td>
<td>237</td>
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Source: PwC analysis on Eurostat trade flows data

Key to table regarding the level of significance: *** = high; ** = medium; * = low; no stars = none
New CPs joined the Agreement, but...

May we extrapolate, from past impacts on Recent Joiners’ trade flows with Europe, trends referred to potential New Joiners?

It could be observed that trade flows with Europe didn’t change significantly in conjunction with accession and adoption by Recent Joiners, but not necessarily this will be the case with New Joiners

- GDP and ForEx variations and expectations appear more strictly connected and relevant, associated with other market-specific and industry-specific conditions
New CPs joined the Agreement, but…

What’s the significance of this outcome from such backward-looking analysis?

Recent Joiners’ accession and adoption didn’t directly boost EU trade flows, but impacts on European industry competitiveness go beyond

- Other implications on European players’ competitiveness ought to be considered, such as cost/capital allocation savings in R&D and in admin procedures, as well as inducement of some ‘premium’ positioning of European automotive products

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New CPs joined the Agreement, but…

We analysed correlation between RJs’ Join and Adopt paths and EU trade flows.
New CPs joined the Agreement, but...

We reviewed short- and longer-term assembly and registration volumes

Global light vehicle assembly volumes
1990 – 2014 (millions)

CAGR 0.6%
CAGR 2.6%
CAGR 5.3%

Source: PwC Autofacts
CAGR stands for Compounded Annual Growth Rate
New CPs joined the Agreement, but…

Did CPs to the UNECE 1958 Agreement achieve global technical harmonisation?

It could be observed that CPs’ relevance on global registration and assembly volumes decreased over time despite Recent Joiners, meaning that automotive growth shifted off CPs

- Declining relevance of CPs justifies actions to increase the appeal of the Agreement toward selected New Joiners, and improved approach to their alignment to technical regulations (‘Join + Adopt’) to enhance technical harmonisation effectiveness
What’s the significance of such evolution matured so far in the automotive sector?

The automotive business is a global game, with mostly global players (in light of scale effects) sticking to (often) local rules

- Technical harmonisation remains a worth pursuit, not just in order to increase trade flows but also to keep the forefront positioning of European players, which requires that other markets follow a converging technical path (and that Europe leads the stringency of regulations)
New CPs joined the Agreement, but...

Source: PwC

EU+European OEMs’ LV assembly evolution
1990 – 2014 (millions)

- EU OEMs - in Europe
- Non-EU OEMs - in Europe
- EU OEMs - abroad

CAGR 4.2%
CAGR 0.1%
CAGR 0.7%

We analysed EU players’ performances in different regions and composition of EU assembly

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5 October 2015
New CPs joined the Agreement, but...

Where did EU players’ light vehicle assembly volumes grow the most, over the last 25 years?

In the automotive sector “Build Where You Sell” rule sooner or later applies, shaping assembly footprints and related supply chains

- Technical complexities requested in the domestic market induced European industry players’ ‘premium’ positioning, underpinning their ability to target and penetrate foreign emerging markets

We analysed EU players performances in different regions and composition of EU assembly

Source: PwC Autofacts

EU+European OEMs’ LV assembly evolution 1990 – 2014 (millions)

EU OEMs - in Europe
Non-EU OEMs - in Europe
EU OEMs - abroad

CAGR 0.7%
CAGR 0.1%
CAGR 4.2%
New CPs joined the Agreement, but...

What’s the significance of such evolution matured so far in the automotive sector?

Lacking technical harmonisation (i.e. locally divergent requirements) is taken as a ‘given’ in the complex “business as usual”, producing capital allocation inefficiencies, lower and slower returns

- Lacking harmonisation didn’t represent a roadblock for European players’ competitive performances, as well as Recent Joiners didn’t turn into boosted trade flows: EU should continue to lead the way on technical requirements to secure current and future positioning of European industry players
Did technical harmonisation impact EU players’ competitiveness? And what about the future?
European Automotive Industry Competitiveness
Quantitative review of European import/export trade flows by geography

- EU export growth significantly over-performed import (1999-2013 CAGR were respectively 10% and 4.8%)
- Trade growth dynamics between EU and CPs over-performed those related to Non-CPs in 1999-2013 (maybe also in light of NTBs)
- EU export to Non-CPs remains predominant in absolute terms
China, Brazil, India and Indonesia (potential New Joiners Countries) together represent 13.8% of EU automotive import, and 20.4% of EU automotive export in 2013 (the same figure was just 4.3% in 2005).

EU automotive export grew by the following CAGR in 1999-2013:
- China: 38.7%
- Brazil: 12.5%
- India: 25.2%
- Indonesia: 21.5%

Source: PwC analysis on EUROSTAT data
**European Automotive Industry Competitiveness**
Quantitative review of European import/export trade flows by product category

- **Assembly and Spare Parts’ EU export dynamic over-performed passenger cars (1999-2013 CAGR were respectively 14% and 8.3%)**
- **EU export of passenger cars remains predominant in absolute terms**
- **EU is a large importer of Motorcycles and Mopeds, mainly from Middle East and Asia Pacific**

Source: PwC analysis on EUROSTAT data
**European Automotive Industry Competitiveness**

Preliminary conclusions from backward-looking quantitative evidences

- In light of growth path shown by CPs over the period analysed (over-performing growth dynamics of Non-CPs), New Joiners Countries should be targeted to become CPs in order to exploit further export growth potential for the European industry

- EU competitiveness of assembly/spare parts should be sustained to support European de-localised operations, as well as to attract additional buyers from abroad

- Technical Harmonisation was relevant beyond easing international trade flows

- A strengthened appeal of UNECE 1958 Agreement [and a more disciplined (‘Join + Adopt’) alignment of CPs / New Joiners] is a priority pursuit

- Further measures to sustain European automotive industry’s competitiveness could also be explored and exploited, in addition to Revision 3, and in line with CARS 2020 action plan
# Reset Expectations from Technical Harmonisation

Competitive outcomes potentially achievable in light of converging technical regulations beyond removal of non-tariff barriers and increased free trade flows

<table>
<thead>
<tr>
<th>R &amp; D</th>
<th>Supply Chain</th>
<th>Market Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stable and predictable requirements (enabling better ROI conditions and increasing competitiveness of SMEs)</td>
<td>• Simplified operations (logistics, stock management)</td>
<td>• Reduced costs and time to achieve local compliance (no duplications and streamlined admin procedures)</td>
</tr>
<tr>
<td>• Prolonged lifecycle of existing technologies</td>
<td>• Facilitated global sourcing, consolidation and international articulation of assembly footprints and of supplier parks</td>
<td>• Minimised delays and obstacles at customs</td>
</tr>
<tr>
<td>• Reduced development efforts (managed complexity)</td>
<td>• Enabled purchased goods' cost savings</td>
<td>• Potentially increased local export volumes on a “Build Where You Sell” basis</td>
</tr>
<tr>
<td>• ...</td>
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Driving Harmonisation into the Future

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5 October 2015
Technical Harmonisation and Competition
Selected outcomes from forward-looking Stakeholders Consultation process: lacking harmonisation not a roadblock to international trade, benefits available

- **Product variances**: regulatory-led ones are marginal if compared to customer- and market-driven, technical convergence reducing R&D efforts and cost of compliance

- **Global sourcing**: technical convergence expected to right-size R&D efforts and enhance/protect SME’s competitiveness, while facilitating supply chain consolidation

- **Market access**: harmonisation to benefit the cost-side of business cases; premium content induced by stringent regulations in domestic markets

- **Assembly localisation**: ‘Build Where You Sell’ and local context features drive decisions, despite conveniently located assembly hubs could be leveraged to penetrate homogeneous markets
Technical Harmonisation and UNECE 1958 Agreement

Would Revision 3 increase UNECE 1958 Agreement’s appeal toward New Joiners?
Revision 3 Key Changes to UNECE 1958 Agreement
Stakeholders’ review of envisaged changes converging toward its increased appeal for non-CPs

Voting Majority
- Envisaged changes positively perceived by non-CPs.
- Lack of changes potentially creates roadblocks to joining appetite.

Differentiated Stringency
- Envisaged changes positively perceived by non-CPs as well as by CPs.
- OEMs apparently positively perceive envisaged changes.

Admin Procedures
- Mutual recognition positively perceived, provided that local technical skills enable proper homologation tests.
- IWVTA positively perceived by Stakeholders.
UNECE 1958 Agreement’s appeal
Preliminary conclusions from forward-looking qualitative inputs

- Envisaged changes contribute to a more modern and inclusive regulatory framework, while lack of changes constitutes a roadblock
- A stricter discipline (‘Join + Adopt’) should favour a more effective harmonisation among CPs and New Joiners
- Erosion of the EU stringency gap by other markets could turn into a weaker ‘made in Europe’ or ‘fit for Europe’ positioning
- Emergence of alternative regulatory platforms and/or diverging single-standing positioning (i.e. China?) should be avoided to preserve the European ‘lead the way’ positioning
Conclusive Remarks (executive summary)
### Conclusive Remarks | Overview

| Remark #1 | there is “case for change” |
| Remark #2 | lacking technical harmonisation not a hard competitive constraint |
| Remark #3 | demanding domestic technical regulations induce premium content positioning |
| Remark #4 | technical harmonisation as a worth pursuit |
| Remark #5 | there is little if no alternative to UNECE 1958 Agreement |
| Remark #6 | enhanced appeal of the Agreement requires proposals for its Third Review |
| Remark #7 | “Join + Adopt” genuine approach worth to be considered to drive convergence |
| Remark #8 | there is value in a more appealing UNECE 1958 Agreement |
| Remark #9 | there is even more to boost modern European competitiveness in automotive |
| Remark #10 | don’t stop work in progress, drive technical harmonisation into the future |
Drive Harmonisation into the Future

Thanks for your attention!