# EFFICIENT GAMING

# GAME CONSOLES VOLUNTARY AGREEMENT (VA)
# FOURTH STEERING COMMITTEE MEETING

**Thursday, 13 July 2017**
**Cambre Associates, Rue Defacqz 52, 1050 Brussels**

## PARTICIPANTS

| Name | Company |
|------|---------|
| 1. Joshua Aslan | Sony |
| 2. Tim Calland | Microsoft |
| 3. Julie Cheung-Rueckert | Nintendo |
| 4. Sasaki Kiyoto | Sony |
| 5. Jane Lee | Intertek |
| 6. Adriana Mattei | Zetacast, Consultant to Microsoft |
| 7. Kieren Mayers | Sony |
| 8. Anna Negrini | Interel Group, Consultant to Sony |
| 9. Teodora Raychinova | Cambre Associates, VA Administrator |
| 10. Cesar Santos | European Commission (EC) |
| 11. Feriel Saouli | Cambre Associates, VA Administrator |
| 12. Emil Schweiger | Nintendo |
| 13. Catherine Stewart | Interel Group, Consultant to Sony |
| 14. Soga Takayuki | Sony |

## AGENDA

1. Welcome and introductions

2. Approval of minutes of previous Steering Committee meeting

3. Review of actions of previous Steering Committee meeting

4. Update from the Signatories

    4.1 The 2017 Game Console VA Review Report

5. The Annual Compliance Report (Intertek)

6. Update from the European Commission

    6.1 Feedback to industry on 2017 Game Console VA review

    6.2 Other relevant updates

7. AOB and date of next Steering Committee meeting

8. End of meeting

## MEETING MINUTES

### 1. Welcome and introductions

As Chairman of the Steering Committee (SC), Tim Calland (Microsoft) opened the meeting at 10h00 and reviewed the agenda. There were no additional items brought forward.

### 2. 3rd Steering Committee meeting (1 December 2016)

Feriel Saouli (Cambre/VA Administrator) recalled that the minutes were circulated after the previous SC meeting in December 2016 and that they had been posted on the Game Console (GC) website after receiving comments from all stakeholders (for the record: http://efficientgaming.eu/meetings-and-other-activities/). She highlighted that the actions agreed at the previous SC meeting had been completed.

Cesar Santos (EC) informed participants that the Commission has decided that the next Eco-Design Consultation Forum[1] will be held between 16 October and 10 November (avoiding the first week of November as there are holidays in Belgium) and it will include the Game Consoles VA along with the Complex Set-Top Boxes (CSTB) VA and two ICT products.

### 3. Update from the Signatories

**3.1 The 2017 Game Console VA Review Report**

**Industry Compliance with the SRI**

Tim Calland (Microsoft) went through all the topics that are covered by the 2017 GC Self-Regulatory Initiative (SRI) review report (slide 6). Kieren Mayers (Sony) then briefly presented the process and the stakeholders involved in the review (slide 7). Tim Calland (Microsoft) went on to present the Signatories' reporting obligations (slide 8) and the timeline starting from the Commission's approval of the GC SRI in April 2015 until now (slide 9).

**Calculation of Energy Savings**

Moving on to calculation of energy savings (slide 10), Joshua Aslan (Sony) mentioned the various energy saving technologies considered by Signatories and stressed that all have been adopted with the exception of the use of separate video architecture to run non-gaming applications because that would not bring significant benefits for the consumer and also comes at significant costs. He emphasized that there currently are few opportunities for further energy savings. He then presented slide 11, which shows the avoided energy use since the adoption of the energy efficient technologies that amounts to the equivalent of 850 MW power station. Cesar Santos (EC) reminded participants that this is an important slide for the presentation at the Consultation Forum and it needs to be thoroughly explained. He also asked what the estimated lifetime of the console is, and Joshua Aslan (Sony) replied that, while it is difficult to calculate precisely, 4 years is a fair estimate.

Joshua Aslan (Sony) then presented the reduced power consumption of PlayStation®4 as compared to PlayStation®3 despite the increased performance of PlayStation®4 (slide 12); he also presented the power consumption of a PlayStation®4 PRO (slide 13). Sony is witnessing

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[1] The Eco-Design Consultation Forum is a group of experts, consisting of EU Member States' representatives, NGOs and other stakeholders, who assesses voluntary agreements and other self-regulation measures taken in the context of the Directive 2009/125/EC.

a paradigm shift with power consumption decreasing with the new generation models put on the market.

Tim Calland (Microsoft) explained that Microsoft's consoles are experiencing a similar situation with the newest Xbox One S using significantly less energy than the older Xbox 360 S despite the increased performance (slide 14). As Xbox One S uses around 60W, while PlayStation®4 around 90W, Cesar Santos (EC) asked whether this means that the console of Microsoft is less 'power hungry' than the console of Sony. Kieren Mayers (Sony) explained that it depends on the games being used for measuring the average consumption, and also on the different performance specifications of the devices, which is the reason for the difference between Sony and Microsoft (benchmarking between consoles is not possible, see below).

Emil Schweiger (Nintendo) explained that Nintendo was not able to reduce further the power consumption of the Wii U than already achieved between the launch in 2012 and 2015 (slide 15). Nevertheless the power consumption is already considerably low and in line with the GC SRI. He then presented the power measurements of the newly launched Nintendo Switch console, which based on preliminary tests, has power consumption levels of 12,33W (active game play mode) and 5,57W (navigation mode); the levels are below the 20W exemption that would render the console out of scope of the VA. Julie Cheung-Rueckert (Nintendo) emphasized that these are only preliminary tests based on a single test sample so these measurements are not yet conclusive. Additional testing will need to be undertaken before Nintendo can definitively conclude whether the Switch will ever approach 20W. The Nintendo Switch nonetheless was developed to be in full compliance with the SRI, including its auto power down requirements and non-energy related commitments.

Kieren Mayers (Sony) then moved to slide 17 and pointed out that even if the average results exceeded expectations, power caps were sufficiently ambitious, as they always have to allow for the necessary variations in different models and different stages of the technological development. He also explained that by measuring statistical variation in five samples, in the peak case, some consoles may still be close to power caps. Cesar Santos (EC) asked whether processors of the consoles are the same and Kieren Mayers (Sony) explained that this is the case for each type of consoles e.g. all PlayStation®4 models use the same processors, and all PlayStation®4 PRO models use the same processors.

Tim Calland (Microsoft) then presented the 2017 power caps for navigation mode, which are reduced by 20W both for HD and UHD consoles (slide 18). The media playback cap of HD consoles will be reduced by 20W in 2017 and for UHD consoles by 20W in 2019 (slide 19). Tim Calland (Microsoft) also explained that the SRI includes power management requirements – 4h or less for media modes; 1h or less for gaming or other modes (slide 20). Cesar Santos (EC) asked Signatories to comment on the instant on mode, which was one of the comments made by the NGOs. Signatories explained that users have the option to modify the power settings (similar to what is available on a PC) when they do not want the console to go to sleep.

**Future Technologies**
Kieren Mayers (Sony) then moved on to present the improvement of game console's technology in terms of performance since the very first games, such as Pong (slide 21 and 22).

He briefly touched upon Virtual Reality (VR) and explained that it is not included in the GC SRI as it is a different product with different power supply, which taps into another market with other competitors.

**Review of Benchmarking**
Kieren Mayers (Sony) explained that one of the commitments made in the previous SRI was that the feasibility of including computational performance in console efficiency benchmarks would be considered at the 2017 review (slide 23/ page 11 of the GC SRI). Therefore, John Koomey (expert on benchmarking in energy efficiency) has been commissioned to review possible benchmarks to compare the performance of one console to another and show why one is using more power than another based on work load (slide 24). To avoid misinterpretation, Kieren Mayers (Sony) stressed that industry is already reporting on power consumption on gaming; it is the comparison of power consumption between different consoles that was studied.

Joshua Aslan (Sony) explained the measurement that has been conducted on power consumption when playing different types of games - the average power consumption varies not only in between the different games but it also varies when a console plays the same game (slide 25 and 26). The reason for this is that the game could be played in a different way, depending on how the game evolves. Kieren Mayers (Sony) explained that the study of John Koomey has concluded that benchmarking gaming performance in game consoles is not possible as the complexity of the devices makes it difficult to define computational output in a way that can be compared (slide 27). Signatories informed Cesar Santos (EC) that they are considering inviting John Koomey to the Consultation Forum to present his research.

**Review of Material Efficiency**
Kieren Mayers (Sony) explained that the agreement already includes material efficiency requirements, which are listed on slide 28. Cesar Santos (EC) pointed out that there are discussions among stakeholders related to fair and non-discriminatory prices for spare parts to third party repair services. Kieren Mayers (Sony) explained that Signatories are not considering making spare parts available to third parties (see below for reasons). In terms of reviewing the existing material efficiency standards, the industry looked at various standards and initiatives; a summary of these is shown on slide 29.

**Future Commitments and Proposals**
Tim Calland (Microsoft) said that industry is proposing a number of modifications to the updated SRI (slide 30) and he then presented the new categories for UHD consoles and the new tier 4 (2019) requirements (slide 31, 32, 33, 34). He emphasized that all feasible energy efficient technologies have already been implemented limiting any further reduction in energy use.

Kieren Mayers (Sony) went on to present the new removability requirements (slide 35) and new recyclability and durability rules (slide 36). He explained that industry has consulted recyclers and research on repair cafes to make sure commitments made are useful for them. Emil Schweiger (Nintendo) said that the newest Nintendo Switch console has been designed to be compliant with the removability and recyclability/durability requirements of the current SRI.

Kieren Mayers (Sony) then presented all the material efficiency options considered and explained why they were accepted or not (slides 37, 38, 39, 40). He emphasized that all conclusions were made after various consultations with recyclers. As far as providing access to system software 'service modes' is concerned, Kieren Mayers (Sony) explained that this is not feasible for the industry as their technology is highly specialized and proprietary (slide 38). This is a key concern: providing such access would open the system software and make it prone to hacking and piracy attempts. Tim Calland (Microsoft) emphasized that for the industry profit margin often does not lie with the consoles themselves but with the games; that is why it is very important that hacking and piracy risks are reduced to a minimum. On the availability of spare parts to third party repair companies, Kieren Mayers (Sony) said that Sony commissioned a survey according to which 95% of repair cafes do not receive any consoles for repairs - this suggests that a good progress on circular economy has been already done (slide 38). Cesar Santos (EC) asked how recycling information will be provided as stated in slide 40. Signatories explained that information on brominated flame retardants and the presence of Hg in screens will be provided on demand and that the type of plastic polymers will be labelled on plastic components where feasible.

Kieren Mayers (Sony) then explained that the next GC SRI review is planned for 2019 or after a new console is announced with significant improvement in performance, which in turn uses more power; all main changes to ensure timely review of the SRI are listed on slide 41.

**Alignment with the Commission's SRI Guidelines**
Anna Negrini (Interel Group/Sony) moved on to present the modifications made to meet the new Commission's SRI guidelines (slide 42). Changes were made to the following - new responsibilities for the Independent Inspector; options for stakeholders to participate; changes to deadlines and schedules. She also explained that regarding the new six-month deadline for non-compliance, Signatories added a clause stating that in exceptional circumstances, when substantial product redesign is required, non-compliance must be resolved within 12 months.

**Stakeholder engagement**
Kieren Mayers (Sony) moved on to present the industry's engagement with stakeholders (slides 43, 44, 45, 46). He explained that industry held two conference calls with NGOs (including ECOS, NRDC, EEB and Oekopol) and written comments were provided in response to each of their concerns:

*Standby power level and targets*
- Kieren Mayers (Sony) explained that Microsoft's instant on option is already covered by a regulation and it therefore does not apply to the GC SRI. Signatories agreed to inform users of the additional standby capabilities and their power consumption, and this commitment has already been included as a proposal within the current SRI review.
- Including standby and network standby in the scope of the SRI is not feasible as these are already covered by a regulation (EU lot 6 / 26 mandatory requirements Implementing Measures 1275/2008 and 801/2013). Ensuring consumers are not incentivised to disable auto-power down APD mode is already included in the SRI (page 8).

*Gaming Power Use/Benchmarking*
- As explained earlier, Kieren Mayers (Sony) emphasized again that gaming power consumption can be measured and reported, and this commitment is already included in the SRI. It is the comparison of computational performance between different consoles that cannot be benchmarked.

*Power levels for latest devices*
- Kieren Mayers (Sony) said that the power consumption of PlayStation®4 PRO UHD mode has now been provided (refer to slide 13).

*Tier 4 limits*
- Kieren Mayers (Sony) explained again that the power consumption cannot be reduced further for current console models as all feasible and available energy efficiency technologies have been already implemented. Industry cannot commit to lower power caps for UHD gaming capable consoles as in worst cases it is possible that some samples may consume up to 110W.

*Peripherals*
- Kieren Mayers (Sony) explained that industry cannot include additional peripherals in the scope of the SRI as these are different products and they do not meet the definition of a game console. Very often they are powered by an external power supply and sold separately. Peripherals sold with their own separate power supply (except those with low voltage external power supplies) must already automatically power down in order to comply with the EU Standby Regulation (EU No 801/2013), so there is no need to duplicate this requirement for this type of peripheral within the SRI. Other peripherals, drawing their power directly from the console or battery powered, where appropriate usually power down automatically to a lower power mode either when the console is not in use, or when not performing a main function. Peripherals also have many different functions and different between consoles, so standard requirements cannot be determined.

*Resource use aspects*
- Kieren Mayers (Sony) explained again that industry cannot commit to make spare parts available to third party repair companies as their technology is highly specialized and proprietary and this can lead to counterfeiting of peripherals and other console products.
- Providing dismantling information to recyclers has already been included in the revised SRI (page 14).
- As the requests to mark plastics with flame retardants and to make plastic parts >100g to be removable/made of compatible polymers for recycling came too late to be included in this SRI review, the industry will consider them for the next one in 2019. Signatories also added that they are not yet in a position to determine whether these are possible or not as they have to first investigate feasibility.
- Kieren Mayers (Sony) then explained that providing information on critical raw material (information and location) is not appropriate given the state of general understanding of where and how to recover these metals (i.e. research studies are still trying to assess the scale of losses from raw materials extraction, dilution within products, and within waste streams, where there are no methods to effectively and feasibly extract all these metals). According to recyclers industry spoke to, such information is also not useful. Comments

related to personal data deletion and removing non-destructively key components have been taken on board and are included in the 2017 SRI revision.

*Additional requests*
- Kieren Mayers (Sony) said that information on overall consoles' sales is available on the VA website (see 2016 annual compliance report and product compliance reports). The industry is currently confirming internally the market share of UHD gaming capable consoles.
- Tim Calland (Microsoft) explained that it is not economically feasible for the companies to produce new games for old and new consoles generations – the conversion of an old game to a new platform often requires a level of investment similar to that of a new game for the same platform; moreover making the game simultaneously playable on both the old and the new platform often limits its quality and user experience to that which was offered with the older technology.
- Kieren Mayers (Sony) explained it is also not technically possible at present to report proportion of users enabling different standby capabilities.
- Finally, ensuring a software update does not cause failure to comply with SRI power caps has been already included in the SRI (page 12).

**Review process**
Tim Calland (Microsoft) presented briefly slides 47 and 48, which confirm that Signatories are following their obligations for the review process.

He then passed the floor to Jane Lee, the GC SRI's Independent Inspector, who presented the Annual Compliance Report (ACR).

### 4. The Annual Compliance Report (Intertek)

Jane Lee (Intertek) presented briefly a background of the GC SRI (slide 4), the Signatories (slide 5) and the key SRI requirements (slide 6). She also presented the responsibilities of the Independent Inspector (slide 8) and explained that Signatories must achieve all of the requirements listed on slide 9 to be found compliant.

Jane Lee (Intertek) explained that since the previous year, minor changes were made to the template for data collection and on the consumer information in the instructions (slides 10 and 11).

She then moved on to compliance review and confirmed that all the Product Compliance Reports (PCR) were submitted by the deadline. Some minor areas of concerns, mainly pertaining to the way information was provided, were reported back to Signatories, which they addressed and updated PCRs were updated accordingly (slide 13).

Jane Lee (Intertek) explained that Signatories requested that the Independent Inspector should not be checking online content (slide 14). Kieren Mayers (Sony) clarified that this is because there are two different processes – checking compliance and checking that documentation is complete and this has been clarified to Intertek on a number of occasions

already.

Jane Lee (Intertek) went on to present the compliance report, which concludes that all the seven game consoles in scope of the SRI are compliant with all its requirements (slides 16, 17 and 18).

She then moved on to present a few recommendations to the Signatories related to PCR submissions, product compliance template and information to consumers (slide 20).

At the end of the presentation, Cesar Santos (EC) mentioned that it is important to consider whether the Independent Inspector should also be present at the Consultation Forum.

## 5. Update from the European Commission

Cesar Santos (EC) presented his feedback, focusing on three main points:
1. Agenda of the Consultation Forum – Signatories should think how to best use the time of Member States' representatives and the stakeholders and to decide in advance who will present and in what order. He stressed that four weeks before the Consultation Forum, working documents should be circulated by the Commission, which also includes the agenda.
2. Commission's recognition of the SRI – Cesar Santos (EC) is discussing with his colleagues in DG Energy how to go about recognising updates to ecodesign VAs.
3. After the 2017 review is completed, the EC will commission an independent study to make sure industry is going for an adequate level of ambition. The study will be funded by the EC and it will seek to identify whether Signatories could push themselves harder in terms of ambition and whether any additional material efficiency requirements that are cost effective could be added.

Tim Calland (Microsoft) commented that the study should be commissioned to someone who is familiar with the product and the technology. Cesar Santos (EC) agreed to keep the Signatories informed about the process.

Kieren Mayers (Sony) expressed concerns that the study could affect the timeline of the next SRI review and he suggested that close cooperation between industry and consultants should be established as to ensure a smooth process.

Tim Calland (Microsoft) asked how much time will be available to the industry to present at the Consultation Forum. Cesar Santos (EC) explained that at a minimum half a day will be allocated, which should definitely include sufficient time for Q&A.

Cesar Santos (EC) emphasized that it is important to better explain how the energy savings are calculated and which technologies have been used, to also explain the process of working with the Commission, and highlight the progress over the years.

Jane Lee (Intertek) made a point that during the Consultation Forum it is important to emphasize the benefits of a self-regulatory approach vs regulation: it is able to keep up with the speed of technology developments.

## 6. AOB and date of next Steering Committee meeting

The next Steering Committee meeting will be held on 29 November 2017.

**Actions**
- VA Administrator to prepare and share the minutes of the current meeting.

## 7. Close of meeting
Tim Calland (Microsoft) thanked all participants and closed the meeting at 13h30.