RDS Forum – the association of RDS users

Summary of the 29th RDS Forum meeting, Hotel Victoria, Glion, Switzerland, 8th and 9th June 2015

Covering two days, the meeting consisted of four sessions. The main RDS business meeting utilised the first day's morning session and both sessions of the second day.

The afternoon session of the first day was devoted to a special workshop, where all members participated in a discussion about the new developments still needed.

1.   RDS Forum membership fee for the year 2016

The membership fee was approved to remain unchanged, CHF 2'900.

On a more practical level the membership renewal will continue to be automatic and those wishing to leave would have to opt out and give two months' notice before their annual membership subscription ends.

2.   Workshop on RDS2 development issues / Presentations

The RDS Forum decided at its previous meeting in 2014 to launch the project RDS2. A specialist workshop was held in Budapest (November 2014). The basics of RDS2 are the three additional subcarriers, which give a significant increase in extra data capacity and services using ODAs. In addition the group made a critical review of unused and outdated features to be deleted from the specification.

A number of new requirements have been taken on board, notably a long PS name coded in UTF-8 and extended AF coding from 64 MHz onwards for Brazil and China.

The results as laid down in the Feasibility Report were reviewed by the Forum to ask for agreement and for continuing the RDS2 project and to adapt the RDS standard and the UECP specification accordingly. Feedback and comments were collected.

The future of radio: FM/RDS and its coexistence with Digital radio

Johnny Beerling said that in 30 years of RDS broadcasting we were on the eve of the next biggest development since EON was introduced. That was the ability to increase dramatically the data carrying capacity of RDS.

Of course this would have to be done without making any of the billions of existing RDS sets obsolete, but following the findings from the earlier meeting in Budapest this will be possible. With the introduction of what would be called RDS2 with this improved data capacity ODA's would be transmitted much quicker and the system would be, in the words of Dietmar Kopitz, "turbo charged". FM broadcasting would probably have then a much extended life with many new data applications becoming possible and easy to be implemented using our well proven ODA concept.

Once we had done this, we would be able to improve displays on larger screens and also see an end to the use of dynamic PS, because RT would be much better, also with non-Latin based character sets such as in Russian, Chinese, Arabic or Indian and also show station logos and even support better Hybrid Radio.

In order to get this off the ground, we would need a massive marketing campaign to persuade broadcasters to take advantage of these new opportunities on FM. Without strong broadcasters' involvement, there would be no opportunity to sell the new RDS2 radios.

RDS2 was not going to sabotage DAB. It will exist alongside, especially in those European countries that cannot afford to establish a DAB infrastructure, due to the economic downturn.

Johnny concluded that RDS2 was a "win win" opportunity for RDS and FM and invited Frits de Jong to explain in more detail what had been agreed at the Budapest RDS2 feasibility meeting in November 2014, chaired by Frits.

RDS2 – a new challenge

Based on findings in the RDS2 Feasibility Report and the results of the Budapest workshop, which he had chaired, Frits explained the new possibilities offered by the increased data transmission capacity obtained with three additional RDS subcarriers and modulated in the same way as the main carrier.

He showed that RDS2 is an extension built on a mature and proven technology. RDS2 is a solution for the todays limited data capacity in RDS. RDS2 opens the door for added value features by ODA. RDS2 & Internet with an inherent linking feature will be the perfect match for connected cars and also for FM radio in smart phones.

Frits concluded that RDS2 is not a competitor to either DAB or HD radio. FM/RDS radio will probably coexist with them for many decades and will be available worldwide.

RDS2 – for the next 30 years

Mark Saunders continued explaining findings of the Budapest Workshop on RDS2 and in which he had participated.

The ITU (International Telecommunications Union) has recently re-affirmed that it sees no end to FM broadcasting, used worldwide. Even by the end of the decade if one or two countries (Norway) have 'switched-off' FM radio, FM will still be predominant in all areas of the world. Even in the UK, which has the greatest number of DAB radios, DAB listening will still account for a minority of radio usage, and will only complement FM, NOT replace it. Outside of UK, DAB usage is still insignificant. Some countries (e.g. Brazil, China) are even increasing the amount of FM radio usage, believing that Digital Radio has little future at all in their countries. RDS2 will offer new possibilities for FM radio worldwide and it offers much enhanced data transmission options to the broadcaster, e.g. with the long PS name permitting coding with the characters used by the country and station logo as we shall see later on. RDS2 will allow for any language to be supported fully. RDS2 increases the data rate by at least five times.

The structure of RDS is completely maintained. It is simply that there are three more 'pipes' to deliver the RDS data stream to the RDS device. In traffic terms it's like widening a single carriageway road to four lanes. The data throughput is increased quite dramatically – not just by a factor of four, but by more, as it's not necessary to carry in the additional sub-carriers 'mandatory' RDS elements that are already in the 'main' subcarrier, e.g. PI takes 25% of the main carrier data capacity.

Group type 15A will become the 'core' RDS2 group. Transmission of the new 15A group will be on the main subcarrier. Simply using 15A on the main subcarrier will give the benefits of long, UTF-8 coded, PS name. The 'old' PS name in 0A groups on the main subcarrier will need to continue to be broadcast for existing RDS receivers, but after a number of years gradually can be dropped entirely.

RDS was designed for the frequency band used in Europe (87.5-108 MHz). There are 204 frequencies in this range at 100 kHz spacing, so all frequencies could be coded using eight bits (eight bits = 256 possibilities). In North America, with a slightly smaller range (88 – 108 MHz) and 200 kHz spacing only 100 frequencies need to be coded, and they are coded identically to Europe. As VHF television services in Band I are progressively being switched off, frequencies from 64.0 to 87.4 are also being used for FM radio. To code the whole range 64.0 to 108 MHz requires around 450 codes, requiring nine bits (nine bits = 512 possibilities). Alternative Frequency information will no longer 'share' an RDS group – it will have its own Open Data Application group.

The additional subcarriers are used just as a continuation of the main subcarrier. However all features in these subcarriers will be sent as Open Data Applications. Because the 'core' information (PS, AF) is carried on the main subcarrier, all of the capacity in the other subcarriers becomes available for ODA use. It is possible that any of the subcarriers may be used to carry more of the same ODA as carried by the main subcarrier. For example, it would be perfectly reasonable to carry RDS-TMC (Traffic Message Channel) information on the main subcarrier - perhaps for national motorways, and detailed information for local roads on any or all of the other subcarriers. Theoretically for example, if TMC was carried at the maximum rate (2.85 groups/sec) on the main subcarrier, and used all groups on the other three subcarriers, TMC capacity would increase sixteen times the capacity it has now.

Will RDS2 happen? Devices will also need chipsets to decode the additional subcarriers, but Josh Caskey is confident that new RDS2 chipsets would be easy to produce, with little additional cost over existing RDS chipsets. However, unless broadcasters and service providers have plans for RDS2, encoders and chipsets won't be produced, so as with RDS itself, it is the broadcasters and service providers that have to 'kick-start' RDS2, and persuade the IC chip and receiver manufacturing industry to follow.

Our new encoder - ready for RDS2

Allen Hartle and Seth Stroh from Jump2Go in Seattle became only aware of RDS2 after the Feasibility Report was published in early 2015. The RDS Forum management team had proposed to inform immediately all RBDS contacts to ensure coordination to take place in time for the RDS Forum in June. Being interested to use the increased data transmission capacity of RDS2 for an ongoing emergency alert project in the USA, the company started immediately the development of an RDS2 encoder. A few days before this meeting the new encoder was ready and small as it was, Allen and Seth brought the box to the meeting for a demo over the air, knowing also that Catena was intending to bring their RDS2 test receiver. They were also aware of Joop Beunders having started to develop RDS2 data analyser software for signal analysis and content display, specifically what concerned the transmission of logo images. So, there were perfect conditions for a demo on air to this RDS Forum meeting and so it happened.

The RDS Forum meeting applauded Allen and Seth for this outstanding achievement. Nobody taking part in the previous RDS Forum meeting or even in the RDS2 Budapest workshop would ever have thought that this year in June we would already be able to see a fully functional RDS2 encoder.

An RDS2 reception demonstrator

After the Budapest workshop at which Hendrik van der Ploeg from Catena had participated, he started the development of a test board using four single RDS tuner/demodulator ICs. These four ICs were tuned to four different subcarrier frequencies, achieved by modifying the IC's firmware. The test signal, with the four subcarriers, Hendrik generated using a recording of a single RDS stream modulated with data and four different PIs, one for each stream, to later be able to identify each stream after demodulation. For this he used four times the TRX011 to generate the four streams with different data on each one. The four subcarrier signal was created by using DSP, shifting the upper carriers to their respective carrier position. Then he combined them into one waveform. The RF MPX signal is received by one analogue tuner while the other three are slaved to that tuner in such a way that all four of them basically work with the same MPX signal. Each of the four receivers delivers its own RDS stream, but this is then combined on a microprocessor. Hendrik showed the block diagram of his demo receiver board as well as the small completed board. The RDS2 data analyser demo software was developed by Joop Beunders. Joop displayed the data of four streams using a USB connection supplied by Hendrik on his board. The modulated RF RDS2 signal was produced by a signal generator. Stream 0 carried normal RDS data such as PS and RT. Streams 1 to 3 carried an ODA on which a series of logos in png format (image size ± 1 kB) was transmitted. The data protocol used was based on a modified proposal from Attila Landanyi, RPEG. Joop added to this packet addressing and a flag for the logo having changed, so that a sequence of different logos could be transmitted. The time needed to transmit one logo was 8 seconds using 100%

of the upper streams' data capacity. Hendrik showed also what the time was, when the ODA used a smaller proportion of the total data transmission capacity.

The RDS Forum meeting applauded Hendrik and Joop for this outstanding development and also their cooperation with the US team of Allen Hartle and Seth Stroh.

<center>***</center>

Then the full demo was shown. The Jump2Go RDS2 encoder transmitted the sequence of logos using a rod transmit antenna in the meeting room and more than 10 metres further away via the receiver antenna rod Hendrik and Joop picked up the RDS2 data stream on the Catena test board , demodulated it and displayed the signal details on Joop's PC.

MILESTONE: This was an almost incredible achievement demonstrating that RDS2 was feasible and the concept that Attila Ladanyi first had put forward to the RDS Forum 2010 has finally proofed to be valid. This RDS2 demo over the air was the absolute highlight of this year's meeting

RDS2 –An IC maker's view point

Josh Caskey's drew attention to the issues to be considered by the Forum:

1. How to engineer RDS2 for success
2. Consider what is required in the specification to make the RDS2 chip design easy
3. For the economic success a killer application is needed

About the latter, what Mark Saunders has previously explained about TMC, Josh said we seem to be already going in the right direction. However, item 2 was dealing with the core issue of the presentation from Josh and it was about how to use minimal processing power for adding RDS2 and how to minimize spectral effects. There were some additional basic requirements that must go into the RDS2 specification to make the receiver chip's job as easy as possible. To identify these, Josh had consulted with one of his specialized colleagues. He drew attention to the need for synchronising all upper subcarriers with the basic subcarrier on 57 kHz. This applies also to the bit-timing and group synchronisation. All this will help to achieve the implementation at low cost.

RDS evaluation tools

Joop Beunders who had worked for Philips, ItoM and many years for Catena retired last year and opened up his own company MacBe which designs RDS alarm systems and some RDS analyser tools such as the well-known TRX011 and now the most recent one, the RX014. Joop said that these were working straight out of the box and he listed some features he had built-in. He also said that his recent work for Catena helping to do the RDS2 software for analysing the four RDS streams will soon result to be ready for marketing the first RDS2 data analyser, if the SiLabs RDS chip used can be modified by software to receive RDS2 streams, a possible SiLabs development that Josh Caskey had indicated to him. Already now he has an RDS2 toolkit that was bundled with the RX014 receiver software. This is not yet an RDS2 receiver, but it is useful for preparing an RDS2 demo as we have seen here in the meeting. The software permits to pack PNG files, such as logos, into the RDS2 upper streams using the enhanced RPEG protocol from Attila Ladanyi that was improved by Joop in helping Hendrik van der Ploeg and Allen Hartle to set up the RDS2 demo we had seen just now. Joop said he had also much experience with I2C to USB interface design. I2C is the bus used on most RDS chips, so this is why his RDS tools all use now USB connectors to communicate with the Windows PC.

Joop was much applauded by all participants and congratulated by the Chairman Johnny Beerling for the superb development work done and presented here in the meeting. Dietmar Kopitz said that without Joop we would not have had the spectacular RDS2 demo we had just seen.

RDS2 – a review of the new possibilities

Attila Ladanyi gave three short presentations. All the three reviewed the new possibilities offered by RDS2.

RDS2 as a real data service

Attila drew attention to the fact that for data services worldwide there exists only FM radio and Internet. He had a proposal to link RDS with the mobile Internet just in the same way we are used to link with AFs to other FM frequencies carrying the same content for audio and data. The aim of this presentation was to introduce the linking method to connect the radio to a corresponding Internet stream which would also resolve the issue for Hybrid Radio in Smart phones.

WBW World Broadcast Web – New opportunities for FM broadcasting

Attila addressed with this the issue "killer application". FM radio with linking to Internet is a strong communication tool that we could well develop further.

RDS2 - what is an ODA?

Everyone can define an application and provide data using the ODA concept of RDS. Whether TMC, bus schedule or advertising; each content can be transmitted via an ODA**.** How does the separation of content work? 3A groups serve as container identification. How to pack inside the container? In RDS1 we have only groups, in RDS2 we can also bundle groups using RPEG, i.e. 8 groups will form a packet of about 30 bytes, a technique also used for the png logo transmission during the demo. Previously, the definition from a service was hard work for specialists. Now: Every editor in the studio should be able to define a service. Each graphical receiver must be able to display these services in useful form. Therefore, we want to define the graphical radio text. It is a **Wysiwyg** application and an ODA that can integrate RDS and Internet content.

Johnny Beerling thanked Attila for his innovative views regarding the use of RDS2 in the future. All participants applauded Attila.

3.   Workshop conclusions and resulting actions

Frits de Jong summarised the results of the Workshop as follows: The Forum has concluded to give green light to:

1. To develop RDS2
2. Issue the new standard
3. Roll out RDS 2
4. Develop and explore a proper Marketing strategy
5. Develop added value features

Technical issues to give special attention:

1. Rules for maximum levels of insertion
2. Adjacent channel distortion behaviour and HD Functionality to be checked
3. RDS Standard and how it evolves
4. Synchronisation of the upper carriers and Data protection in the upper streams
5. Certification and Document control
6. Lessons learned from Encoder development permitting Dynamic PS

Marketing issues

1. Marketing and positioning of RDS2 is a major activity for the coming period
2. Focus on **Public** and Commercial broadcasters
3. Collaborate with **TISA** for Traffic and local alerts warning
4. Develop added value applications in the RDS Forum
5. Key added value point is UTF-8 Character coding for **global** implementations

It was agreed to set up two working groups in order to advance the introduction of RDS2.
- **Working group 1's task** would be to revise and rewrite a new standard document for the RDS system.
- **Working group 2's task** would be to write a new UECP standard.
-

4.   Election of the RDS Forum management team and handover

The newly elected RDS Forum Chairman is Frits de Jong.

The proposal that the second candidate not elected Chairman should become Vice Chairman was accepted unanimously, so Mark Saunders is the Vice Chairman.

Dietmar Kopitz was unanimously elected as CEO.

Attila Ladanyi was unanimously elected as Treasurer.

Johnny Beerling congratulated Frits on his appointment and wished him good luck. Then he vacated the chair and handed over to Frits to continue as Chairman of the meeting.

Frits thanked the members for their confidence and mentioned the remarkable turning point of this Forum meeting bringing the challenging project RDS2 to a success. He thanked Johnny for his outstanding achievements for the Forum. A perfect sense of timing combined with a sense of humour made him the ideal chairman of the RDS Forum over the last 22 years next to the other founding father, Dietmar Kopitz Frits was very pleased to welcome Mark Saunders in the management team.

5.   RDS-ODA alarm system developments

Vincent Simonacci informed that the test of the French alarm system IRIS continued in 2015. He gave a short presentation on this topic.

Joop Beunders and Allen Hartle informed the Forum about the ongoing RDS alarm system developments in the USA involving several public authorities and also the possibility to make use of the increased RDS2 data transmission capacity.

6.   RDS-TMC

TISA

The invited member of the TISA Executive Office was Stephanie Chaufton. She spoke to the Forum, outlining how the association had been formed, its method of working and liaison with other organisations.

TISA – 'Traveller Information Services Association' had been formed in 2007 from a merger of the TMC Forum, the TPEG Forum and the Mobile Info project (an industry group from Germany that had collaborated in further defining and testing TPEG).

TISA is a market-driven not-for-profit membership association with worldwide scope, focused on proactive implementation of traffic and travel information services and products based on RDS-TMC and TPEG technologies. It has over 100 members, over half from Europe, representing the end-to-end value chain in collecting, dissemination and presenting Traffic and Travel information.

Although TPEG was a major activity of TISA, as it was still under development, Stephanie acknowledged that RDS-TMC was by far the most used bearer and protocol, with services in operation in all continents. TISA maintains the RDS-TMC series of specifications, which subsequently are released as ISO 14819 standards.

Following a presentation by Mark Saunders to the TISA committee about the possibilities that RDS2 offers for enhancing Traffic information over RDS, TISA has approved the formation of a new group with a specific remit to take responsibility for the maintenance, updating and development of RDS-TMC.

Mark Saunders continued with a presentation that outlined the function of the new group, with an ongoing 'Working Group' role for the maintaining each part of the 14819 series of standards: periodically for example, as RDS-TMC was introduced into new countries, translations of the 'Events List' (14819-2) may be required, or additional event codes added for specific situations encountered in these countries.

Additionally as a 'Task Force' the group would look at the opportunities that RDS2 would provide for enhancing TMC. The group would set 'rules' for example as to how backwards compatibility of existing RDS-TMC services will be maintained, whilst increasing the number and speed of delivery of messages that using the additional RDS2 subcarriers provides.

The formation of the new TISA group with Mark Saunders as its chairman was to be endorsed at the TISA General Assembly.

7. Liaison with the IEC

Dietmar Kopitz reported that he will be assisted by the IEC Central Office in the restructuring of the RDS standard to include RDS2. This decision was taken by IEC TC 100 at its AGS meeting in Milano, April 2015, where Dietmar had presented a proposal to achieve this objective.

The delayed and updated versions for the RDS measurement standard IEC 62634 - Final draft of edition 2 and the RDS standard IEC 62106 - edition3 were now published by the IEC and are available on their web shop.

Dietmar also reported that the RDS Forum Office is since a number of years already a member of "Electrosuisse", the Swiss national body coordinating standardisation with IEC and ISO. He is getting also a lot of support from their coordination office regarding the liaison activity of the RDS Forum with the IEC and this has also largely contributed to paving the way to make progress on the way to RDS2 standardisation and to make this happen quickly in spite of the fact that the process is normally still quite slow, because of the many formal constraints of internationally agreed standardisation procedures.

8. Liaison with the ITU

Activities and decisions of interest to the Forum

Petko Kantchev who is specialised in ITU matters, was invited, as in previous years, to update us on the latest decisions taken by the ITU and that will have an impact on the future of radio.

There were two categories of events, standardisation and spectrum allocation, the first topic being dealt with by the ITU Study Group 6 (Broadcasting) and the second topic was dealt with by the World Radio Conferences, of which the next one is to be held in November 2015.

The main broadcasting issues at the WRC 2015 will be the TV use of Bands IV and V, where sharing with mobile services is sought, creating heavy broadcaster opposition.

Petko Kantchev was optimistic that FM broadcasting would go on for many years. He had the view that the large majority of broadcasters love FM radio and most countries in the world will therefore try to keep it for as long as possible. Thus, on ITU level there are not yet any actions planned regarding FM radio re-planning anywhere worldwide.

Contacts to be made

Dietmar Kopitz mentioned that the RDS Forum needs to seek contact on informing the ITU, and in particular Study Group 6 dealing with Broadcasting, regarding RDS2 and it will be necessary to re-assure everyone on the compatibility issues. The recent discussion with the IEC revealed that Dietmar may be mandated by the IEC TC 100 to coordinate this matter with the ITU using their already existing cooperation agreement.

9. Liaison with the RBDS Subcommitte (NAB & CEA)

Dietmar Kopitz welcomed David Layer representing the NRSC RBDS Subcommittee. Dietmar said that he had coordinated RDS Forum work with David over almost 20 years and that he had drawn attention, through David's help, to the RBDS experts on the RDS2 Feasibility Report since it was published to the RDS Forum earlier this year.

David said that for him the coordination work with the RDS Forum had always been easy. He had just input some observations from the Chairman of the RBDS Usage Group, Alan Jurison (iHeartMedia).

Dietmar responded that we shall update the RDS2 Feasibility report and then respond in the new version to the observations made.

Dietmar asked David of whether we could cooperate with the RBDS Subcommittee on upgrading the IEC RDS standard to include RDS2. As the standard will be restructured and exist of a number of parts of which one of them will deal with differences applying to different regions of the world, there was an opportunity to integrate the RBDS specification into the future IEC version of the RDS standard.

David responded that this was an approach he would support and he offered to join the working group of the RDS Forum that would draft the new standard.

Dietmar said that this will also help to progress with RDS2 in synchronic steps together with the RBDS Subcommittee.

There was much support in the RDS Forum for this kind of cooperation.

10. Liaison with the WorldDMB Forum

Proposed modification of Basic character set

Dietmar Kopitz presented the proposal from the WorldDMB Technical Committee. The aim was to modify the basic character set, more or less backwards compatible, given the fact that there are some infrequently used symbols in the current set and only these can be redefined to make this set more attractive for the Central and East European countries and to include the characters that they use in their national languages. Up to now RDS and DAB receivers used the same basic character set of which the origin was the EBU, originally designed for teletext and so far enhanced only by the RDS Forum with the inclusion of the Euro currency symbol.

The proposal is that we adopt this enhanced basic character set in June and carry it then forward to a

new edition of the RDS standard. WorldDMB will then do the same for the DAB/DMB standards family later this year. Then, again both standards will use the same basic latin character set.

In the RDS Forum it was noted that this new Table is not fully backwards compatible. From the chair it was explained that this was unavoidable and that for RDS and DAB we better continue using the same Table and the general preference was then to keep the old Table.

The car radio manufacturers that came forward with the objections were Harman Becker Automotive and Robert Bosch Car Multimedia.

We asked them to carefully check again their preference and communicate it to WorldDMB.

If WorldDMB changes to the new Table nevertheless, we - the RDS Forum shall use in a future version of the RDS standard the same Table as preferred by WorldDMB.

Also the NRSC RBDS Subcommittee had by now provided feedback on this matter.
The NRSC has concern on four proposed character substitutions. If the RDS and NRSC character sets are to remain the same, the NRSC would like to discuss not changing the four characters they identified:

- 0x24 / $ issue
- 0x5E (long hyphen)
- 0x5C \ (backslash)
- 0x5F _ (underscore)

Lindsay Cornell, Chair of Technical Committee WorldDMB, informed the RDS Forum that the proposal will now be put forward to ETSI for standardisation. Dietmar informed Lindsay of the discussion we had at the RDS Forum 2015.

11.   DAB/DAB+ implementation - an overview

Dietmar Kopitz said he had put a lot of work into updating the fact sheet about DAB and particularly the DAB implementation progress made in the EU member states. However, in many EU countries there is not yet any transition to DAB.

12.   Smart Grid activities in North America

Jackson Wang, eRadio Inc Canada - e-Radio being the inventor of the Utility Messaging Channel (UMC) communications using FM RDS gave an updated presentation on his work in North America where he had made good progress in saving energy by installing RDS operated control chips to manage domestic and industrial power supplies, particularly in heating systems.

He showed many examples of where his company had deployed the system and outlined the next steps.

13.   Hybrid radio developments

Vincent Simonacci informed us that since the last year there was no progress regarding the Hybradio project of Radio France. The development of this project will continue however.

14.   RDS-ODA

Dietmar Kopitz said that the register was up to date and there had been a few requests for ODA's since the last meeting.

15. UECP updating and adaptation to RDS2

Dietmar said that because of RDS2 we have to update again the UECP. This update will concern the introductory part, a new command for the new 15A group and new commands to transmit ODAs on the upper streams or only just a specific one.

To achieve this, the new Working Group 2 was just created.

16. HD radio implementation - an overview

Joe d'Angelo said how pleased he was to be back at the RDS Forum for the 5th time and started his presentation with an impressive new video selling the advantages of HD radio.

In summary there were now 2,065 HD radio stations in North America broadcasting some 3,631 different radio channels and it was very successful, particularly driven by the excellent TMC services from offering HERE and Total Traffic Network (TTN).

He said the HD radio was also spreading into Mexico and Canada.

17. RDS – worldwide /RDS implementation responses

Dietmar Kopitz said we maintain since many years the list of countries worldwide, using RDS.

All RDS Forum members with RDS contacts overseas are asked to check the entries and to update this list and keep Dietmar Kopitz updated on the latest RDS implementation information observed.

18. RDS Forum's document distribution to non-members

Dietmar Kopitz said also that it was very important for RDS to be correctly used by broadcasters and transmission operators. To better support such an objective, he proposed to give the RDS Guideline to them for free, downloadable from our RDS Forum web site as an encrypted document and with an access password to be requested from the RDS Forum Office to open it. The RDS Guidelines should then also be available for free to the EBU and its members.

There was a general agreement to go ahead.

Dietmar Kopitz will publish later this year the encrypted RDS Guidelines on the RDS Forum website with a free password available to broadcasters only and the concept of Guideline articles as described above and use Paypal to obtain payment for the RDS Forum

19. RDS eBook project

Dietmar Kopitz reminded members that there had been a proposal to try to increase revenue by selling access to an eBook written by himself with contributions from Mark Saunders and Frits de Jong. The first version was published in August 2013. The project was open to all RDS Forum members to join and to contribute articles on topics not yet covered. Each year a new version could be published with new chapters added. New topics to be covered could be "Character sets used in the RDS standard" and "Hybrid radio". Also, how to use RDS2 by broadcasters could be described.

Dietmar Kopitz will continue to co-ordinate the RDS eBook project and members of the Forum, not yet involved, are invited to join.

20.   Date and venue for 2016 meeting

As for next year, Frits de Jong proposed that the Forum should meet on 13 and 14 June 2016 and this was agreed. Following a long discussion within the Forum about a possible change of the venue, the large majority of the meeting participants preferred to continue with hotel Victoria in Glion/Montreux. However, the cost is a serious issue to be focussed on by the management team with high priority.

Therefore the meeting venue for 2016 is confirmed as the Victoria, but at a reduced cost

One participant remarked the following: The Forum should stay at hotel Victoria because the environment is unique and it is a perfect place for building relationships. The Forum will lose some its spirit if it moved into a different location.

For RDS2 marketing meetings other locations in big cities are preferred. Dietmar proposed to hold such a meeting first in early November, in Berlin, and next year somewhere else in another big city to attract also plenty of broadcasters from the respective region to attend.

The Forum agreed to hold the first RDS2 Info Day on 3rd November in Berlin-Alexanderplatz to explain to non-members of the RDS Forum the new developments and possibilities.