

CMS Communications Plan

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with annexes by

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Executive Summary

In September 2009 the CMS Collaboration Board established a new “Communications Group”, led by Lucas Taylor, for the coming phase of LHC data-taking, analysis and discovery. CMS mandated the Communications Group to:

- *Prepare a "CMS Communications Plan" to address the CMS communications needs (internal and external), with the goal of improving CMS operations, collaboration efficiency, and public profile.*
- *Revise, replace, or adopt existing or new communications systems to meet the needs expressed in the "CMS Communications Plan"*
- *Continually operate, maintain, and improve the CMS Communications systems to meet evolving needs.*

This document is a first draft CMS Communications Plan. It describes the scope of the Communications Group activities, which covers both internal and external CMS communications, in three main areas:

1. **Communications Infrastructure** – CMS operations centres, videoconferencing rooms, hardware and tools;
2. **Information Systems** – web sites, technical documents, publications, and more ephemeral items such as agenda and meeting management systems.
3. **Outreach and Education** – material for and communications with the written press, TV, and other media, exhibitions, visits, educational activities and relations with industry.

The ongoing activities in each of these areas are described. All areas need to be consolidated and strengthened to cope with the new demands of the exploitation (physics research) phase of CMS. In many cases reviews of the current CMS systems and future new requirements will be needed in order to prepare a coherent CMS strategy and to develop detailed project plans that are consistent with CMS priorities, schedule, and resource realities.

The estimated personnel needs are about 15 FTEs compared to less than half that currently working in the Communications Group. A modest increase in manpower is possible in the short term but satisfying the full manpower needs will be hard and will take time (possibly years).

The planning will need to take this ramp-up into account because critical activities and services must be continuously sustained. Therefore a list of short term tactical actions is proposed to address immediate priorities, such as internal communications systems and external media events for LHC start-up.

The following Annexes in this document are included for reference:

- Annex 1: CMS Outreach and Education Plan
- Annex 2: CMS Guidelines for Publications not covered by CMS Rules
- Annex 3: CMS Guidelines for Talks not covered by CMS Conference Speaker Rules
- Annex 4: CMS Guidelines on Blogs;
- Annex 5: Proposal for “CMS Relations with Industry”; and
- Annex 6: Highlights from the CERN strategic communication plan 2009-2013

This “CMS Communications Plan” should be widely reviewed in CMS and with key stakeholders, such as the CERN Communications Group (DG/CO) and the CERN/IT service providers. It should then be updated accordingly.

Please send us feedback on any aspect CMS Communications, whether or not it is already part of this plan. Our goal is to improve CMS communications in all areas!

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Scope of CMS Communications Group

The scope of the Communications Group covers both internal and external CMS communications, with three main areas:

4. **Communications Infrastructure** – CMS operations centres, videoconferencing rooms, hardware and tools;
5. **Information Systems** – web sites, technical documents, publications, and more ephemeral items such as agenda and meeting management systems.
6. **Outreach and Education** – material for and communications with the written press, TV, and other media, exhibitions, visits, educational activities and relations with industry.

The scope of each of these three areas is summarised below

1. Communications Infrastructure

CMS is a communications-intensive collaboration of physicists, engineers, technicians and support staff who require close daily interactions with many colleagues distributed all over the world. Much of the communications infrastructure is a ubiquitous commodity (e.g. telephone systems) and is not explicitly addressed by the Communications Group. Other infrastructure is within the scope of the Communications Group, as described below.

1.1 CMS Centres Worldwide

A CMS Centre is a communications focal point for students, post-docs and faculty [1,2,3]. It is a shared (physical and virtual) workspace with easy access to up-to-date information via (Web) services. There are numerous status and monitoring screens, interactive consoles, high quality videoconference systems [4], meeting rooms and outreach displays.

CMS is establishing a network of CMS Centres at CERN, in the Americas, Asia, Australasia, and Europe. There are 35 so far already in operations or planned. The goal of this network of CMS Centres is to help all collaborators to participate effectively in the CMS research programme, irrespective of location.

CMS Centres are used for CMS operations, sub-detector data quality monitoring (DQM) [5], data analysis, computing (grid) operations, and outreach [6]. When CMS running stabilizes, remote shifts may become possible for certain tasks (e.g. computing operations or DQM). A CMS Centre increases CMS visibility in the institute, helps attract new students, and supports outreach activities such as tours, discussions with physicists, live displays, posters, and other exhibits. CMS Centres may also be used for media events.

1.2 Video-conferencing

CMS holds approximately FIXME:XXX meetings per week, almost all of which may be attended remotely by video-conferencing. CMS has equipped about 15 high-quality videoconference rooms at CERN, ranging from the auditoria of building 40 to small rooms for 20 people.

Reliable hardware-based videoconference systems are used to permanently link the Control Room to the CMS Centre@CERN and major remote CMS Centres, notably those at Fermilab and DESY. These are used for daily CMS operations as well as occasional media or VIP events.

All CMS videoconferencing installations conform to the technical specifications of CERN/IT whose UDS group provides invaluable technical support. Videoconferencing user applications, such as EVO, are also handled via CERN/IT, who negotiate service-level agreements with the service providers and then charge the experiments according to their usage of the services. CMS will participate in the LHC-wide pilot project to evaluate Vidyo, a commercial tool that addresses many of the same issues as EVO, and may potentially be a cost-effective future alternative to EVO.

1.3 CMS Live Displays

Various centrally driven live displays are needed for internal communications in CMS (e.g. LHC page 1, CMS page 1, detector status displays, live event displays, etc.). These displays are located in the Control Room, in CMS Centres Worldwide, in certain public areas (e.g. building 40 cafeteria), and on any physicist's desktop.

Similar displays are required for outreach purposes in public areas at CERN (e.g. at P5 and in the CMS Discovery Centre described below), in CMS Centres Worldwide, in home institutes, and in any Web browser.

The infrastructure required includes some modest Web services, known as "CMS-TV" to aggregate, manage and deliver content (e.g. URLs of pages) as well as the installation and maintenance of the physical displays, particularly at CERN.

2. Information Systems

The Communications Group is responsible for the establishment and operations of CMS information systems, services and tools in close collaboration with CERN/IT service providers and other stakeholders. These include: the internal (private) and external (public) Web sites and their associated Web and collaboration database services; communications tools and services (news, Email, etc.), and document preparation, management, and archival systems, as described below.

2.1 Collaboration Web and DB Services

The CMS internal Web site (iCMS) and the associated Collaboration Database form the core of the CMS information systems. It includes the organisational aspects of CMS such as management structures, the master calendar, registrations, personnel management and so on. iCMS uses CERN/IT Web servers and Oracle database services, configured to meet CMS needs.

iCMS is intended to be the main entry point, or portal, into the broader CMS information systems described below. Currently this is not uniformly true. For various reasons, a lot of important CMS information is spread over a range of other Web servers or services, for example the CERN Wiki system.

2.2 Information / Communications Tools

These include tools used extensively for internal communications such as E-mail, news, instant messaging, e-logs, Wikis, and the Indico meeting management system, as well as more outward-looking “Web 2.0” tools such as blogs and twitter. The CMS Communications Group should establish a clear CMS strategy, recommend a baseline set of tools, and work to integrate them better into the CMS environment – an example is the management of E-mail lists and their members which is currently done using various tools: iCMS with auto-generation of lists from the (frequently out-of-date) CMS collaboration DB, e-groups and Hypernews.

2.3 Document Management System

CMS has a wealth of documentation from the construction phase in the form of published papers and reports, internal notes, conference proceedings, presentations at meetings, internal bulletins, informal working documents, design drawings, plans, Email discussions of issues, software guides, shift instructions and many more.

These are stored in a multitude of formats on a multitude of systems with varying degrees of formality and accessibility. As CMS starts to run the amount of important information will increase rapidly. It is of strategic importance to CMS to consolidate, develop and maintain this knowledge base such that all key information is stored and made easily accessible with powerful search features. The following strategy is proposed:

1. Deploy an interim Document Management System using existing tools which can be rapidly set up for CMS-wide use;
2. Systematically and pro-actively collect documents from throughout the collaboration and put into the Document Management System; and
3. Start to define long term CMS needs and technology plans for a Document Management System, together with key stakeholders such as CERN/IT and other experiments and laboratories where possible.

2.4 Publications and conference management systems

CMS Notes, reports, analysis summaries and papers are produced using the “TDR” (Technical Document Repository) system [FIXME: REF] which stores latex and graphics content as files in a CERN/IT-hosted cvs repository and builds documents, or parts of documents using the CMS “tdr” script.

The workflow for papers is managed by the Web-based CADI system, developed as part of iCMS. Completed papers are then archived in the CERN/IT-supported CDS system; older notes should also be archived in CDS.

The CMS-supported CINCO system manages conferences including management of speakers, conferences, and conference papers.

3. Outreach and Education

The CMS Outreach and Education activity, led by Dave Barney, has been functioning continuously for many years. As part of the new Communications Group, it will continue to address external CMS communications with the world media (written press, radio, television,

etc.), the general public and targeted groups such as high school students and teachers. This activity will benefit from synergies with the other areas of the Communications Group including, for example, CMS Centre infrastructure for media events and visits, Web systems, live displays, etc.

Dave Barney and Elizabeth Gibney have already developed a detailed Outreach and Education plan for the period 2009-2010 with the following goals:

- To raise public awareness about CMS and build on its previous image;
- To inform the public and funding agencies about CMS and foster support;
- To provide CMS education and information materials and resources; and
- To welcome visitors and press to CMS including coordinating press/public events surrounding the LHC re-start and first high-energy collisions.

This plan, shown in full in Annex 1, describes the CMS plans in the following areas:

3.1 Outreach publications

The main outreach publications are the bi-weekly CMS Times and the more-detailed quarterly CMS Bulletin. These provide regular updates on CMS activities to a readership of about 3700 people from CMS and 300 people not in CMS, not including casual Web readers.

The CMS outreach Web site was completely revised in 2008 to update the content and to bring it more in line with other CERN public web sites. It contains information on the physics goals of CMS, the CMS detector construction, the collaboration and has a number of multimedia resources.

Professional-quality ephemeral publications have been produced including the CMS brochure, comic book and fact sheet in a steadily increasing number of languages. These are updated and stocks are replenished as needed.

3.2 Exhibitions and visits

Two focal points are foreseen for visitors to CMS:

The CMS detector at P5 and surface hall “Viewing Gallery” – When the LHC is running there is no access to the CMS experiment cavern but in long shutdowns CMS will have a radiation-safe area for visitors to view the detector. The underground electronics room will always be accessible to visitors. A modest “Viewing Gallery” in the surface hall will enable visitors to see CMS detector spares and repair activities as well as large photo displays of CMS. This will facilitate the handling of large groups who cannot all be underground simultaneously.

The CMS Discovery Centre and the “CMS Centre @ CERN” – These facilities are located on the CERN Meyrin site, in and adjacent to the former PS Main Control Room. The CMS Discovery Centre will be a standard part of the CERN visits programme, which currently supports 30,000 visitors (mostly teenagers) per year – it is planned to double this number in the near future. The Discovery Centre will include real CMS detector exhibits, interactive displays, and a dedicated education room. CMS is seeking industrial sponsorship for the Discovery Centre.

3.3 CMS Shop

The CMS shop activity covers ephemera such as calendars, diaries, greetings cards and souvenirs such as T-shirts, hats, and key rings. These items are also available in the CERN shop and their distribution via the Internet is being considered.

3.4 Education

Education focuses mostly on high school and University students and their teachers. Hitherto, activities have mostly covered the production of educational material (presentations, films, etc.) and giving of lectures.

CMS should also try to engage students more actively in analysis exercises. For example, the “Masterclasses” run by the EPPOG network allowed high school students to classify real LEP events in an event display program and hence explore the decay modes of the Z. Other more statistical analyses are also possible.

3.5 Relations with Industry

See draft proposal in Annex 5.

Staffing and Resources

The status and needs for staffing and other costs for the Communications Group are described below. These are all approximate preliminary estimates which will need to be refined as part of the Project Plan, once the CMS needs and priorities have been reviewed in detail. The estimated needs are about 15 FTEs compared to less than half that currently working in the Communications Group. A modest increase in manpower is possible in the short term but satisfying the full manpower needs will be hard and will take time (possibly years). Therefore the planning will need to be realistic and take this ramp-up into account.

In general there is a significant shortage of manpower. Capital costs are generally covered by the CMS Maintenance and Operations (M&O) budget, although this does not fully cover the area of Outreach, such as the CMS Discovery Centre, as described below.

It is proposed that all significant manpower contributions to the Communications Group be considered as eligible for MoA service work credit – this is already the case for items which were previously part of the Computing or Offline projects, such as support for the CMS Centre@CERN and associated management systems.

1. Communications Infrastructure

The Communications Infrastructure activities are led by Lucas Taylor.

1.1 CMS Centres Worldwide

Support of the CMS Centre @ CERN is carried out by Lucas Taylor and Gilles Raymond, both of whom also have other responsibilities. Support tasks include user support, events and visits, facilities maintenance, system management (about 40 PCs and 100 displays), computer security, and associated CMS Centre management applications (“ci2i” and CMS-TV). CMS Centres that are not at CERN are supported by local staff with advisory help from Lucas and Gilles. Capital costs for hardware maintenance and upgrades are covered by the M&O budget.

Additional technical support (1 FTE) will be hired to help with CMS Centre support and related activities, as already foreseen in the CMS M&O budget.

1.2 Video-conferencing

Lucas Taylor is the responsible CMS person for equipping and maintaining the CMS videoconference rooms at CERN. CERN/IT UDS group provides expert advice and excellent technical support. Capital costs for hardware maintenance and upgrades are covered by the (M&O) budget.

No additional personnel are needed in this area.

1.3 CMS Live Displays

Lucas Taylor and Gilles Raymond provide the general CMS-TV “Web channel” system that manages and aggregates URLs of live status displays and other pages, and serves them via the Web. They are also responsible for the large outreach displays at P5, the CMS

Centre@CERN and other public locations at CERN. CMS collaborators and others (e.g. LHC operations) provide content for these live displays. Capital costs for hardware purchases are covered by the M&O budget.

Modest additional help is needed in this area to install more public displays; this can be covered by the 1 FTE to be hired for CMS Centre support (described above).

2. Information Systems

The Information Systems activities currently have no overall coordinator. Whoever is appointed should dedicate most of their time also working on technical aspects of this activity.

This activity is also seriously under-staffed, as described below, compared to the required scope.

No explicit capital costs are foreseen for this activity. Hardware, for example for Web servers, is provided through CERN/IT.

2.1 Collaboration Web and DB Services

Dirk Samyn is the main CMS responsible for iCMS, the internal Web site and it's associated DB services, with support from Gilles Raymond.

This area is significantly under-staffed and requires at least 1 FTE of Web developer expertise and more than 1 FTE (shared by a number of persons) to work on improving the content of the iCMS Web site.

2.2 Information / Communications Tools

Support for most of the basic tools and services (E-mail, news, instant messaging, Indico, Wikis, etc.) is already provided by CERN or other non-CMS entities. There is essentially no CMS effort dedicated to this task with the result that the systems are rather ad-hoc and poorly integrated.

Modest CMS manpower (not exceeding about 1 FTE) is needed to consolidate the CMS usage of these systems (e.g. e-groups and Hypernews, news with rss, CMS shared calendars and Indico, etc.).

2.3 Document Management System

There is currently no manpower dedicated to establishing a coherent CMS Document (Knowledge) Management system. The CMS strategy should be reviewed and the manpower needs defined.

It is likely that several FTE will be needed to address the important strategic objectives outlined above.

2.4 Publications and conference management systems

The TDR system is developed and supported by George Alverson and Lucas Taylor, CADI by Dirk Samyn, and CINCO by Bolek Wyslouch.

Additional effort (about 1 FTE) is needed to develop and support these systems and improve their integration with the CMS Web, collaboration DB and Document Management systems.

3. Education and Outreach

The Education and Outreach activities are led by Dave Barney.

This area is chronically under-staffed. There is currently just one full-time person, Marzena Lapka, and a number of part-timers summing to less than 1 FTE in total.

The Communications Group should proceed to hire a new media-wise person to replace Elizabeth Gibney, as already foreseen in the CMS M&O budget. Additional requests for dedicated personnel supported by M&O funds may be required.

They should also prepare a list of tasks for which help is needed and make a call within CMS for new people.

3.1 Outreach publications

Marzena Lapka and Karl Gill are responsible for the production of the CMS Times and the CMS Bulletin. No additional resources are required at this time.

3.2 Exhibitions and visits

The Communications Group, notably Marie-Christine Sawley, is seeking industry sponsorship for the CMS Discovery Centre at the CMS Centre in Meyrin, and possibly also for a visitors' area at P5. Additional resources and manpower will certainly be needed to prepare exhibits, develop interactive material and films, and to coordinate VIP and other visits. Once the sponsorship resource envelope is known, a detailed project plan should be developed for CMS to review.

3.3 CMS Shop

Marzena Lapka and the CMS Secretariat operate the CMS shop, including the preparation of material, managing stock and sales. No further resources are required at this time.

3.4 Education

Previously, there has been insufficient CMS effort dedicated to the area of Education. The Communications Group should strengthen its efforts in the area of Education, bringing in new CMS people to help and collaborating, where possible, with other non-CMS groups.

Resource needs should be determined once a clearer CMS Education strategy and plan has been prepared.

3.5 Relations with Industry

See draft proposal in Annex 5.

Immediate Actions

In addition to the ongoing activities in each area, the following specific short-term actions should be taken as part of the systematic establishment of the CMS Communications Group activities.

1. Communications Infrastructure

1.1 CMS Centres Worldwide

- The Communications Group should proceed to hire a new technical support person to help support CMS Centre and related activities, as already foreseen in the CMS M&O budget.

1.2 Video-conferencing

- CMS should identify a user group to participate in the LHC-wide evaluation of Vidyo, a commercial videoconferencing tool that addresses many of the same issues as EVO.

1.3 CMS Live Displays

- The Communications Group should review the content of the CMS-TV “Web channels” prior to first LHC beam, and increase the number of public CMS displays at CERN (particularly at P5 and in the CMS Centre@CERN).
- CMS should ensure that live event display feeds (images) are available prior to first beam; this requires the part-time availability of key event display experts.

2. Information Systems

- A technically-experienced coordinator needs to be found who is available full-time to work in this area, based at CERN.

2.1 Collaboration Web and DB Services

- The Communications Group should help CMS develop and agree upon a clear strategy and top-level architecture for managing its own information and Web site(s), including not yet existing items such as, for example, a shared Web-based calendar/agenda system.
- CMS should ensure adequate resources are made available to implement the strategy including, crucially, the updating and management of the information content.

2.2 Information / Communications Tools

- The Communications Group should help CMS develop a coherent CMS strategy and set policies for communications tools (but should generally avoid developing or supporting them, this being the role of CERN/IT or other third-parties).

- Multiple systems are used in CMS for many of the same functions (e.g. E-mail lists) – this should be reviewed and standardised, more simplified, practices and systems established instead.

2.3 Document Management System

- People should be immediately identified who can rapidly establish an interim Document Management System for all CMS. Then they shall systematically collect documents from across all CMS systems and fill the Document Management System, while also supporting the use of the system by CMS users in their daily work.
- The Communications Group should help CMS develop a coherent long term strategy for a Document Management System and then work, together with CERN/IT and others, to implement a CMS-wide Document Management System using existing components where appropriate and adding new components as required.

2.4 Publications and conference management systems

- Incremental development of the TDR, CADI and CINCO systems is required, for example to make more coherent use of the collaboration (people) database across all areas.

3. Education and Outreach

General actions are:

- The Communications Group should focus its short-term activities on the media event foreseen for first high-energy collisions.
- The Communications Group should proceed to hire a new media-wise person to replace Elizabeth Gibney, as already foreseen in the CMS M&O budget.
- The Communications Group should attempt the (admittedly-difficult) cost-benefit analysis of CMS Outreach and Education activities in order to guide the setting of priorities.

3.1 Outreach publications

- Ongoing activity. No specific actions at this time.

3.2 Exhibitions and visits

- The Communications Group should seek industry sponsorship for the CMS Discovery Centre at the CMS Centre in Meyrin, and possibly also for a visitors' area at P5 and, once the resource envelope is known, prepare a detailed project plan for CMS to review.

3.3 CMS Shop

- Ongoing activity. No specific actions at this time.

3.4 Education

- The Communications Group should strengthen its efforts in the area of Education, bringing in new CMS people to help and collaborating, where possible with other non-CMS groups.

3.5 Relations with Industry

See draft proposal in Annex 5.

References

Documents

- [1] L. Taylor et al., “Functions and Requirements of the CMS Centre at CERN”, CMS NOTE-2007 / 010, 16 March 2007
- [2] L. Taylor et al., “CMS centres for control, monitoring, offline operations and prompt analysis” Proc. of CHEP '07, 2–7 Sept. 2007, Victoria; J. of Phys: Conf. Series, Vol. 119, 2008.
- [3] <http://cmsdoc.cern.ch/cmscc/index.jsp>
- [4] CHEP 09: Erik Gottschalk et al. in plenary and HD Videoconferencing talk
- [5] CHEP 09: Lassi Tuura et al. on CMS Data Quality Monitoring talk
- [6] CHEP09: Gilles Raymond and LT on ci2i and CMS TV poster

FIXME: add reference to James Gillies' Communication Plan (if public)

FIXME: add various additional references here

Web links

- iCMS: <http://cmsdoc.cern.ch/cmscc/index.jsp>
- CMS Centres: <http://cmsdoc.cern.ch/cmscc/index.jsp>
- CMS TV: <http://cmsdoc.cern.ch/cmscc/cmstv/cmstv.jsp?channel=1&frames=yes>
- CADI: <http://cms.cern.ch/iCMS/analysisadmin/analysismanagement>
- CINCO: <https://cern.ch/cms-mgt-conferences/>
- TDR: http://cmsdoc.cern.ch/cms/cpt/tdr/notes_for_authors_temp.pdf

External Liaison

- **LHC Collaborative Environments Board**, chaired by CERN/IT; the CMS representative is Lucas Taylor. <https://espace.cern.ch/lceb/default.aspx>
- **European Particle Physics Outreach Group**, co-chaired by Dave Barney and Michael Kobel. <http://eppog.web.cern.ch/eppog/>
- **European Particle Physics Communications Network**, chaired by James Gillies, Head of Communications for CERN.
- **LHC Outreach Group**, chaired by Emma Sanders.
- **Quarknet**, led by Marge Bardeen, Michael Barnett, and Randi Ruchti.

Annexes

Annex 1: CMS Outreach and Education Plan

CMS Strategic Communications and Education Plan, July 2009

Prepared by Dave Barney and Elizabeth Gibney

Summary

1. Goals

This plan covers the period 2009-2010, during which our goals will be to:

- Raise public awareness about CMS and build on its previous image
- Inform the public and funding agencies of activities at CMS and to foster support
- Provide CMS education and information materials and resources
- Welcome visitors and press to CMS including coordinating press/public events surrounding the LHC re-start and first high-energy collisions.

2. Key messages

The key messages to be conveyed as part of these goals should fit with those of CERN. The following statements are therefore adapted from the CERN key messages:

- Fundamental science satisfies the basic human instinct to explore
- Fundamental science is a driving force for technical innovation, collaboration and scientific education
- CERN is a world leader in fundamental research
- CMS, as part of the LHC will launch a new era of discovery and understanding
- LHC and experiment technologies create tangible benefits for society

3. Target audiences

- The general public
- Educational systems, primarily at high school level
- The local community
- Science and technology opinion formers
- The CERN community
- The broader scientific community and industry collaborators

4. Communication tools

The target audiences will be reached through:

- The media
- The website
- Multimedia products
- Exhibitions
- Visits and events
- Publications
- Alumni relations
- Masterclasses and outside lectures

4.1: The media

CMS members are to continue to be available for interviews and act as guides for the media, primarily coordinated through the CERN Press Office. CMS provides press materials including a brochure, comic book and factsheet to visiting media. These are easily accessible in the Secretariat and guides should be encouraged to take them. The CMS communications team should also work with the CERN press office on press releases and any breaking news, in particular to follow the protocol for release of LHC results (see Appendix 1)

The CMS Centre is ideal for hosting visiting media during high-profile events. Such a media event is foreseen for the first high-energy collisions and the first results from the LHC. This will be coordinated by the CERN press office, and may require CMS to host a number of journalists.

4.2: The website

The CMS public website, released in September 2008, is the default website for CMS links and searches and should be an information base for all target audiences (particularly the general public, science and technology opinion formers, the CERN community, the local community and educational systems), also provide easy-to-access links to higher level information for the CERN and scientific communities and to more targeted sites (e.g. for educational resources)

One of the main functions of the CMS website is also as a store for multimedia resources and materials. In addition it contains information about the detector and its construction, the physics goals of CMS and the CMS collaboration.

The website should continue to be improved upon and updated as necessary, in particular in light of LHC runs and results. A news page is foreseen for 2010 for this purpose, as well as general public level physics results pages when significant results are announced. The education section is also in an early stage, currently mainly supplying links to associated sites. We hope to be able to incorporate such educational projects as part of our own website soon, also linked to projects associated with school visits to CMS.

4.3: Exhibitions (at Point 5 and at the CMS Centre, Meyrin)

New exhibitions/visitor centres are being prepared for both Meyrin (“CMS Discovery Centre”) and Point 5 and will form the major part of outreach work in 2009: see separate scenario proposals for more details.

The CMS Discovery Centre is primarily designed with young people (12-20) in mind, as the majority of visitors to CERN are school visits within this age range. The exhibition will form part of the CERN Visits Service itinerary, as part of a tour also including the LINAC, but the exhibit features should also be suitable for visitors to use without the aid of a guide. One section of the exhibition will be a dedicated education room.

The visitor’s centre will also serve as a hosting area for VIPs and media in instances where the CMS Centre is unsuitable or unavailable.

4.4: Visits and events

There will be no access to the experimental cavern at Point 5 whilst beam is running. However, CMS hopes to be able to clear a radiation-safe area during long shutdowns, throughout LHC operation. The underground electronics room will always be available for visitors to view.

During shutdowns therefore, Point 5 will remain a visitor venue, with visits also making use of a proposed visitor space on the surface. Currently the main attraction of the visits has been viewing the detector itself, with waiting areas showing large CMS banners of photos. All year round, but especially during times when there is no underground access, visits will focus on the CMS Discovery Centre (see previous section).

The CERN visits service is set to receive an injection of resources and aims to double the current 25-30,000 total visitors per year. Other proposed changes include allowing CERN guides to guide only their preferred itinerary; therefore CMS guides could contribute to managing an increased flow of visitors.

Public events, such as the LHC Open Day in 2008, would also take place at Point 5. Public events are also an opportunity to sell CMS merchandise, handled by the CMS Secretariat. A variety of merchandise currently exist (for the full range, see <http://cms.web.cern.ch/cms/Souvenirs/>) and may expand to include CMS posters. There are currently plans for a new run of the CMS photo book, which details the detector’s assembly and installation, and these will be available in the CERN shop. CMS will continue to produce a calendar every year for both internal and external sales.

CMS should also explore the possibility of internet sales.

4.5: Publications (CMS Times and brochures/factsheets)

The main tasks will be to maintain and improve upon existing CMS publications and materials.

CMS currently produces two news publications: the quarterly CMS Bulletin directed at the CMS community (“inreach”), and the fortnightly CMS Times for CMS, CERN and public audiences (“outreach”).

The Bulletin is currently undergoing the process of becoming an online publication, with the first online edition occurring in June 2009. Previous editions, currently available online in PDF format, will also be archived. Individual stories within the CMS Bulletin will be stored on CDS and therefore searchable through the CDS search function. The look of the website will also bring it in line with other CMS and CERN publications.

The CMS Times will undergo some changes in terms of content, starting with a regular physics column to highlight the shift in focus to data taking. These articles should be understandable by the majority of the collaboration and so the greatest effort should be made to exclude jargon and fully explain technical content. The CMS website and CMS Times article archive will be used as reference points for reading this column. Editorial help is mandatory to ensure that these articles are understandable by the majority of the target audiences.

The CMS brochure, comic book and factsheet will need to be updated as necessary and restocked when needed.

4.6: Multimedia products

The set of tools collectively known as Web 2.0 is becoming increasingly used by, and expected by, the public. To further engage with these tools, CMS is starting its own YouTube channel, to go live over the summer of 2009. This will be a freely accessible archive of CMS and CERN films. A CMS Facebook page already exists and is managed by its founder, Christos Lazaridis, a CMS collaborator, in consultation with the outreach team.

Many multimedia products based on or featuring CMS or its physics already exist or are currently in production, but are produced independent of the central CMS outreach team (e.g. German Executive LHC Outreach Group film "Particle Masses and the Universe). Such products can be harnessed and used for outreach purposes, but only once the outreach team is aware of their existence; the wider CMS Outreach group, the European Particle Physics Outreach Group (EPPOG), and country link-persons should therefore make an effort to update the central team on their independent productions, so that they can be best used, publicised and supported, and so that work is never doubled.

Many new multimedia products will need to be produced for the new CMS visitor centres. One such item is an animated 3D collision event, already being produced in collaboration with Rolf Landua for use in CERN's permanent exhibition in the Globe, using CMS data.

To collate and make more easily available the vast numbers of CMS photos that currently exist, professionally taken or otherwise, CMS is starting a new photo database, using CERN's existing CDS system. The specially tailored system, currently in a prototype stage, will involve a new more user friendly interface, with increased search and browse functions and the ability for keyword terms to be added by collaborators to enhance the descriptions and searchability of each photo. The purpose of the archive is not only to increase the visibility of CMS to the public and journalists, but also to document its construction; consequently we also hope that eventually individual collaborators will be able to upload photos from their personal collections that will fully flesh out the history of CMS as much as possible.

4.7: Alumni relations

There are many previous CMS collaborators now work in a range of fields around the world. Creating a network of CMS alumni can be beneficial to both alumni and CMS as being mutually informed inspires further collaboration and possible future access to each other's skills and resources.

Rebecca Leam is working in collaboration with CERN's Knowledge and Technology Transfer team, to create a network of Alumni with this goal in mind.

4.8: Masterclasses and outside lectures

Masterclasses, run with the EPPOG network, that bring real LEP and LHC data to school level students will continue in 2009-2010 and beyond.

ATLAS already has a project to make sub-samples of their data available to schools (the ATLAS Student Event Data Challenge). CMS should consider something similar, which will require substantial resources.

Many CMS collaborators already carry out entertaining and educational lectures for members of the public at their own institutes and at CERN. These have often proved a very effective way of directly engaging with and inspiring the public. To encourage this, and following on from the success of a worldwide lecture series based around the science of the recent film "Angels and Demons", CMS will support and promote the efforts of the US-LHC outreach group in creating more ready-made lectures to tie-in with the first LHC collisions. The US-LHC team will provide resources such as powerpoint presentations, multimedia and advertising posters, as well as promote the lectures themselves. CMS will be keen to collaborate with the US-LHC team, adapting these resources for our specific needs and promoting the lectures series within our collaborating institutes.

5. Local communication

Following a study in 2008 reporting that neighbours in the local area tolerate rather than celebrate CERN's presence, CERN has a new focus on engaging local people in 2009. Previously channelled through the Host State Relations Office, the new initiative will be more direct and proactive in provoking dialogue with local people, schools and Mairies, with Corinne Pralavorio of the CERN Press Office responsible for the project.

For CMS this will possibly include more visits from local people, and in particular school children, to Point 5 and the Meyrin site. Plans also include improving the site's territorial visibility, through renewing road signs and making information panels for local people, as well as creating interest in the experiment though including it in interactive activities for visitors to the area (such as a LHC-wide treasure hunt)

6. Evaluation

This plan should be reviewed and evaluated every year.

Annex 2: CMS Guidelines for Publications not covered by CMS Rules

The following guidelines were approved by the CMS Collaboration Board in September 2008.

We already have rules concerning CMS publications*. Below are guidelines for publications not covered by CMS rules. By good etiquette authors writing on any subject that has a bearing on CMS should inform the CMS Publications Board Chairperson of the title and the abstract of the paper prior to submission for publication. In most cases it is expected that the Chairperson would just take note. However, there may well be a few cases that sit on the borderline which would then be dealt with by mutual discussion. In all cases only information “approved for public dissemination” should be used. By good etiquette, it is strongly recommended that the CMS authors present, before submission for publication, the contents of the paper in the appropriate CMS meeting to bring attention to their work and get feedback. It is also recommended that the authors thank their CMS colleagues in the paper in question. One benefit of this will be that the papers get posted on our Publications website and allow others in CMS to use the material, much of which is expected to be general in nature. Another benefit is to avoid any internal CMS competition in “publishing ideas outside CMS”. The fabric of collaborations in HEP is sewn with the common understanding that results belong to the experiment and not to individuals. Our individual actions should strengthen this fabric and not weaken it.

* See CMS Constitution at

FIXME: CHECK URL

http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_DOCOFF

Annex 3: CMS Guidelines for Talks not covered by CMS Conference Speaker Rules

The following guidelines were approved by the CMS Collaboration Board in September 2008.

We already have general rules concerning conference speakers*. Below are guidelines for talks not covered by the CMS rules. By good etiquette invited speakers on any subject that has a bearing on CMS should inform the CMS Conference Committee chairperson of the title and the venue of the talk. In most cases it is expected that the Chairperson would give an almost immediate positive signal. However, there may well be a few cases that sit on the borderline which would then be dealt with by mutual discussion. The venue, title and the talk file should be posted on the CMS conference web site. This will potentially allow others in CMS to use the material, much of which is expected to be general in nature. Another benefit is to allay possible concerns of “distorting” the credit due to the appropriate members of the collaboration for any particular CMS result (or sets of results). In all cases only information “approved for public dissemination” should be used.

* See CMS Constitution at

FIXME: CHECK URL

http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_DOCOFF

Annex 4: CMS Guidelines on Blogs

FIXME: add link to the primary reference

Guidelines are needed for blogs due to sensitivity of the subject and requests coming from outside agencies for people in CMS to blog about their work.

Wide internal discussion, even if contentious, is useful and healthy in a Collaboration of our size. However, people should act with the normal common sense, decent manners and sensitivity to possible contentious matters when in the public arena.

The guidelines set in other experiments, especially CDF, are used to set up our own ones. Blogs can be classified into three categories: scientific, internal and private.

The following guidelines were approved by the CMS Collaboration Board in September 2008.

1. Scientific

This includes discussion and interpretation of CMS physics results. Nothing should be discussed or shown that has not yet been approved. Furthermore, bloggers should kindly refrain from posting discussions on just-approved CMS results until the collaboration has officially presented them first. This can be after the first public talk is presented or after the results have been accepted for publication. Discussion of approved results is, of course, allowed. However, personal interpretation of these, beyond what is agreed upon by the collaboration, should not be discussed in the public domain. At all times blogs should point to the official and public sources of CMS information.

2. Internal

This includes information about what occurs in internal CMS meetings, in interactions and discussions with collaborators, and in general the details of all our operations (including all of our procedures, formal and ad hoc, as well as details of the internal status of any particular issue). Our meetings and “business” discussions are to be considered as PRIVATE. No information from these should show up in blogs. All our collaborators, including students, reviewers, convenors, managers, etc. NEED to know that they can safely operate in an environment where they are not scrutinized by, or exposed to, the outside at any time.

3. Private

By common sense and decency, revealing personal information about one's colleagues ought not be done. Again, the baseline is to assume that they don't want you talking about them in public - even if what is said is “good” or “positive”. By the same common sense and decency, blogs should never be used to express dissatisfaction with any member of CMS or of any decision by any of its bodies (be it physics group, subdetector editorial board, member of any particular board or committee...). It should be assumed that while we may/can engage in

lively discussions prior to any decision of CMS, the full collaboration will stand behind the decision once the latter is made.

Annex 5: Proposal for “CMS Relations with Industry”

Prepared by Marie-Christine Sawley (draft, 11 November 2009)

Networking with the industrial world for knowledge transfer, fund raising, partnerships, joint communication events and for synergizing with CERN KTT

The overall mandate for setting up the CMS communication plan is to:

“Prepare a “CMS Communications Plan” to address the CMS communication needs (internal and external), with the goal of improving CMS operations, collaboration efficiency, and public profile. “

In this list, the relations with the industrial world are broadly included in “public profile”. However, they require a specific effort and profile in order to reach the overall goal. This section is specifically designed for addressing this public, highly synergetic with the other 3 and with the CERN environment.

Why target specifically “Industrial relations”?

The public and societal players are made of different groups of stakeholders, each of them being potential opinion leader in its category. For example:

1. Centres for education: schools, universities, ...
2. Communities of scientists
3. Press and media
4. Local residents
5. VIPS, government representatives
6. Government agencies promoting economy and industry
7. NGO
8. Private foundations, philanthropists
9. SMEs and large corporations directly partners of the CMS collaboration
10. SMEs and large corporations subcontractors, which have a secondary interest in the impact of CMS, and other partners, such as banks and services

The goal is to support knowledge transfer toward groups n. 6 to n. 10 of the previous list, with the focus and depth it needs. With these categories, a “push strategy” is more appropriate to address our messages, therefore we have to identify persons inside those groups, keep an active network and profile actions in their domain of interest.

Objectives

- To collect and structure the contacts with such players
- To support specific actions in order to promote the CMS collaboration and its achievements towards them
- To raise the visibility and to increase the impact of joint communication actions, such as the CMS Industry awards,
- To profile the CMS collaboration towards the economy players in Suisse Romande and neighbouring France, i.e. some of our best supporters in the local population
- To communicate the positive impact (economic, societal, education) of the construction and operation of the detector
- To raise the profile of the CMS collaboration in technology transfers operations, when applicable

Tools and mechanism

For achieving such goals, the CMS collaboration will have access to a number of new high value channels such as:

- At CERN
 - Global Network of Alumni (they form the most valuable “knowledge transfer” group)
 - New KTT newsletter
- Inside the CMS collaboration
 - CMS Discovery centre in Meyrin
 - P5 Technology Gallery

and will make wide usage of existing ones, such as:

- CERN Courier
- CMS Times & Web site
- CMS Industry Awards

Actions

The actions should focus in 2010-2011:

- Promoting success stories, scientific results or new technology development induced by the CMS detector and which found their way into wider industrial and service applications
- Specific actions for fund raising for outreach (Meyrin Visitor Centre, P5)
- Raise the visibility of existing industry partnerships
- Coordinate, extend and maintain the network of existing relations
- Establish and operate a dedicated channel with the CERN KTT and leverage benefits for the CMS collaboration
- Communicate regularly with the CMS Times about such progress
- Access through networking specialized technology sections in newspapers and publications
- Organize the 1st CMS Alumni meeting, at the end of the first data taking period, to (re-) associate them with our community and its successes
- Produce a report mid term (end of 2010) about its achievements and delivered actions

Additional resources and budget 2010

The goals and objectives of the “Industrial relations” section can be supported with minimal investment by the existing CMS communication plan. In addition the listed resources, it would require roughly:

- A 25 to 30% (service) position to drive this section
- monthly access to CMS Times for short interviews and articles
- funds for kickoff meetings (for serving the sponsoring efforts) or events¹: 15'000 CHF
- CMS Industry awards: trophies, lunch, photographs: 16'000 CHF
- basic travel assistance: (estimated) 3000 CHF
- brochure about the economy impact of the construction of CMS : 10'000 CHF (only printing costs for high resolution paper version) if the layout and graphics can be done in house

¹ After kickoff, networking events should reach self funding

Annex 6: Extracts from the CERN strategic communication plan 2009-2013

Prepared by James Gillies and others

The full document may be found at: <http://FIXME:XXX>

From the “Preamble”

“...This will borrow from NASA’s approach, as far as resources allow, of portraying each collaboration not as a single experiment but rather as a series of experiments using a single apparatus. This approach will require a constant supply of new high-quality communication materials, particularly visuals.

Because market research consistently shows that our target audiences believe in the intrinsic value of basic research – people think that it is important for mankind to explore our universe – increased effort needs to be put into passing the message that basic research is a driver of innovation. The same market research shows that people expect there to be utility resulting from basic research on a short timescale...

...we cannot, and should not, repeat the media event of 10 September 2008 for the first injection of beam in 2009. However, we propose to run a live webcast 24 hours per day over the period covering first high-energy collisions, accompanied by rapid posting on the press office Web pages of pictures, event displays and recorded interviews with scientists. The press office would provide someone on shift in the CCC to give a running commentary.

Contacts have been established with Eurovision for satellite distribution of images to broadcasters. It would be economically prohibitive and of marginal strategic interest to broadcast the full process live in this way, so twice daily video news releases are foreseen, coupled with an ability to switch to a live broadcast at the time of first high-energy collisions.

Some media have already requested to be present at CERN for the first collisions. We propose to invite news agencies plus one selected broadcast media per Member State, and attempt to leverage communication in the Member States via the European Particle Physics Communication Network (EPPCN) and globally through the InterAction collaboration. Should media demand be higher, the Globe will be used as a media centre for the period required.

The following milestones would be covered by media activity:

- First circulating beam: press release.
- First low-energy collisions: press release.
- World record beam energy: press release.
- First high-energy collisions: media event.
- First results: media event.

Linked to the restart of the LHC is that fact that the catastrophic black hole story has not gone away. Our approach in the past was to counter the arguments raised by a small number of people with factual evidence on the CERN website. In contrast to the way CERN handled

communication of the science behind Angels and Demons, we took a very reactive approach to communication linked to the black hole story. With the benefit of hindsight, we recommend taking a more pro-active approach as we get closer to the restart. This would involve making LHC safety content much more visible on the CERN public web site, and proactively soliciting media coverage of the subject.

From “Protocols for LHC announcements”

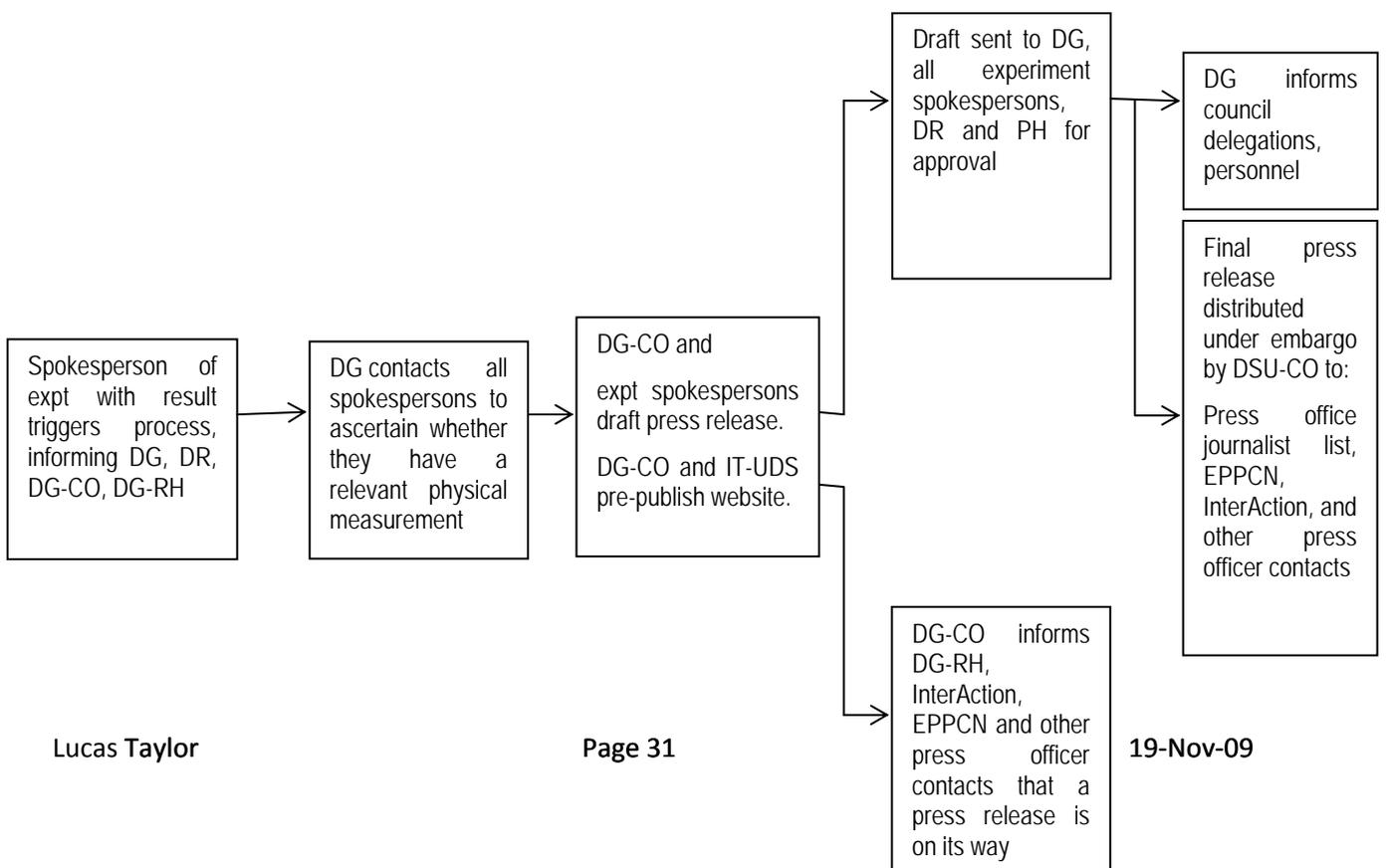
“...In the case of physics results, this protocol is triggered when one experiment wishes to announce a result. It involves the experiment’s spokesperson contacting a number of people within the organisation. These people would then prepare the announcement of the result. It is important that this protocol be in place and agreed upon by all actors before results start to flow. Results would be announced first at CERN, following which collaborating institutes would be welcome to organise their own scientific seminars and media events...”

There is no time-scale foreseen for such a scenario because the length of the process depends on the type of discovery and the clarity of the data. However, for major discoveries, speed will be of the essence: with such a widely distributed community, information leaks are almost inevitable. Each institution on every experiment has its own communication infrastructure, and a desire to make its mark. This protocol does not aim to detract from local communication by these institutions; rather to enhance the impact at all levels while ensuring that the official announcement is made at CERN.

The DG makes the final decision in the case of disagreement between experiments on the text of a press release.

This communication flow will also be applied to relevant discoveries at other laboratories, InterAction members having undertaken to inform DG-CO in advance of any announcement. In such cases, a press release will not always be made. Instead, material will be prepared for CERN’s response to media queries.

Communication flow prior to physics media release



In the event of an information leak, the communication flow above should not be short-circuited. Any news of a leak should be communicated to DG-CO who will then inform all others involved.

In response to media queries about the leak, if it is correct, the press office will simply reply giving the time/date when an official announcement will be made.

If the leak is incorrect, DG-CO will check with the spokespersons concerned and may also publish a press release denying the rumour. This decision will depend on the subject of the rumour and the level of external interest.

If an experiment is contacted first and the leak is clearly incorrect, they should make a clear denial before informing the press office, as any delay in receiving such information could lead to misreporting.

CERN requests that the experiments communicate the correct procedure to follow within their collaboration to reduce the risk of leaks happening, particularly through individual physicists' blogs (see page 15).

From “Post physics media release actions”

In the case of a physics discovery, the press release will be under embargo and will include an invitation to a seminar where the discovery will be announced to the scientific community at CERN.

CERN wishes to avoid making an important physics announcement to the world's press before informing the scientific community. However CERN also wants the media to find out about the discovery from a CERN press release, rather than an outside body. This will both reduce the risk of errors in the media coverage.

It is therefore proposed to release basic information about the discovery in the initial press release that would remain under embargo until the seminar has taken place. Giving media access to the scientific seminar where the announcement takes place has an added benefit of giving access to the buzz of science happening. Moreover, ensuring all media contacts receive the information at the same time increases the impact of the announcement and the total overall coverage.

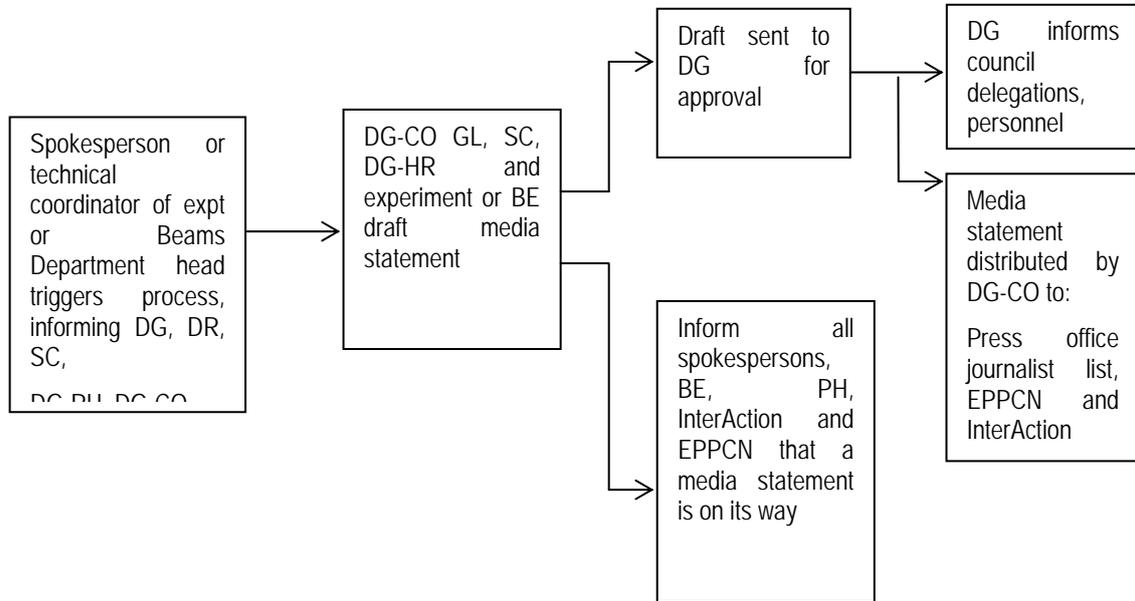
In the case of a discovery such as the Higgs, it is likely that the media will be aware before any announcement is made, since the significance of the Higgs signal will evolve over time. Furthermore, media interest will be stimulated by the perceived competition between CERN and Fermilab. This level of interest can be harnessed to our advantage, as was the case in the last year of LEP running. We propose to communicate openly on the subject, but to reserve the formal mechanism of a press release for the discovery announcement. We recommend holding regular updates at CERN from all the experiments during the critical period, as was done in 2000 for LEP, as a means of providing a framework for communication.

Because of the immediate visibility of physics papers via arXiv.org, all external submission should be timed to coincide with the seminar.

A web portal giving the media access to pictures, animations and film clips including interviews with the different spokespersons and other relevant people will accompany each discovery announcement. These interviews will be carried out by DG-CO whilst the press

release is being drafted, and the final page will be published by DG-CO to coincide with the press release.

Communication flow preceding media release about an accident



CERN will ensure that this process takes less than 24 hours.

Until the media statement is released, the CERN press office will field media calls, giving out summary information and announcing the time of the full statement, so that the experiments are not inundated with requests for information.

To ensure the coherence of communication with the media, CERN requests that all experiments respect this communication flow. If an experiment is contacted directly in the event of a leak, the DG-CO group leader should be informed. The process will then be accelerated, but not short-circuited. The procedure in the case of a leak is as outlined for the case of a physics discovery.

Depending on the severity of the accident, the decision will be taken whether to issue a statement or simply have information on hand should media call.

This communication flow, without the involvement of SC, will also be applied to the preparation of media releases about technical problems that lead to a delay..."

From "Guidelines for bloggers and forum users"

"...When commenting on scientific subjects, bloggers should ensure that nothing is discussed that has not yet passed internal peer review processes. Furthermore, bloggers should not post results until their official release in the form of a public talk or acceptance for publication. This will be particularly important in the build up to the announcement of the LHC's first significant results. We recommend that regular updates from the experiments be held at CERN at this time, as was done in 2000 for LEP, as a means of providing a framework for communication and providing exciting and timely material for bloggers..."

From “Guidelines for presentations and publications”

People making presentations outside CERN, or publications not in academic journals, that are likely to attract significant interest should submit a copy to DG-CO in advance. At the time of writing, for example, any presentation mentioning the LHC restart will result in calls to the CERN press office. If the author is in any doubt as to the level of external interest, they should err on the side of caution and submit a copy to DG-CO. This has the dual advantage of preparing the press office for any enquiries, and possibly of leveraging the talk to reach other audiences, for example local media and opinion leaders at the venue of the talk.

From “Guidelines for the use of the CERN image”

Guidelines for the use of the CERN image are included in the graphic charter, which is to be published on a web site in 2009. Essentially, anyone wishing to use the name and logo of CERN must use the templates and rules described in the charter. Any web site using the CERN name and logo must also adhere to graphic lines described in the charter, and any web site describing CERN-hosted projects should be within the cern.ch domain. This cannot be reasonably implemented until such a time as web tools are available allowing remote maintenance of sites (see p17).

From “Brand management”

“...It is also timely to rethink what the CERN brand stands for. Currently, CERN identifies itself as the European Organization for Nuclear Research. There are two reasons why now is a good time to rethink this branding. Firstly, the European Strategy for Particle Physics has made the distinction between the Organization and the Laboratory more apparent. It is increasingly important to reflect this distinction in naming conventions. Secondly, the current name does not accurately reflect the majority of the Laboratory’s work. For these reasons, we propose to reserve ‘CERN, the European Organization for Nuclear Research’ for communication and branding related to Council business. For the Laboratory, we propose ‘CERN European Laboratory for Particle Physics’, or ‘CERN’s European Laboratory for Particle Physics’...”

From “CERN web communications”

“...Recommendations: Websites should not be self-service. Official sites should not be determined by the technologies that they are built upon, but rather by the domain they are hosted in. Unofficial websites, such as personal pages, should not be supported in CERN's domain....”

“...Recommendation: URLs are important to communicating to website users where information is held, and by whom it is managed, and thus should be tightly managed at CERN. URLs should be clean and simple: by looking at a URL one must be quickly able to form an idea of what type of information is held there...”

“...Unfortunately, URLs are just one facet of a larger underlying problem: there is no coherent architecture for the CERN web. In the rest of this chapter we propose ways in which this can be addressed.

From “A coherent architecture for the CERN web”

A single site for official communications

CERN needs a website. A single, trusted, home for official communications. The communications group proposes that this should be a new site established at: <http://www.cern.org/>

CERN already reserves this domain name. This single site should:

- Be built using a content management system
- Have a managed architecture
- Support content (and interface items) in multiple languages
- Allow multiple content editors and contributors
- Be built with accessibility and flexibility in mind

A managed URL structure

Official communications should all be under <http://www.cern.org/> Consider, for example:

- <http://www.cern.org/about/>
- <http://www.cern.org/de/news/>
- <http://www.cern.org/bulletin/>

All of these sites should be maintained using a content management system that allows for a consistent treatment of the CERN brand – everything under <http://www.cern.org/> should ‘look and feel CERN,’ and share common interface elements.

A clean and consistent treatment of URLs is essential to re-establishing trust in the CERN web. URLs that are meaningless to humans (but are used by underlying systems) should be avoided. For example:

- <http://www.cern.org/Objects?id=6343h2xxz799>
- <http://www.cern.org/bulletin.aspx?id=63343&keyword=member%20states>

The next level down the domain name should be reserved for important sites that are not directly linked to official communications, as well as key applications. For example:

- <http://departments.cern.org/BE/>
- <http://experiments.cern.org/atlas/>
- <http://cds.cern.org/>
- <http://indico.cern.org/>
- <http://blogs.cern.org/johnsmith/>

These ‘level 2’ sites should have a consistent treatment of the CERN logo and include a link to the official CERN site. They should also adhere to a graphic charter and web usability guidelines (usability guidelines such as page validation are now a legal requirement for

websites for public organizations in many countries, the CERN website does not comply, an example terms of use agreement is included in Appendix 1).