

	Teleconference 31/03/2016 1:00 – 2:30pm (CEST)
Attendees:	Marwan Abdou-Ahmed (USTUTT) Clemens Hoenninger (AMP) Fetah Benabid (XLIM) Jerome Alibert (GLO) Thorsten Wahlbrink (AMO) Jose Ramos De Campos (LASEA) David Bruneel (LASEA) Noemie Drury (C4L) William Scalbert (E6) James Clayton (KITE) Julie Devall (KITE)
Apologies:	Andreas Michalowski (BOSCH)

Speaker	Topic	Evaluation
JD	The purpose of the teleconference call is for WP Leaders to give an overview of work package status Where necessary other partners may contribute to the discussion	Risks, Actions, Issues and Decisions will be highlighted separately

WP 1	Definition of User Requirements - BOSCH	Risks	Actions
		Issues	Decisions
KITE/JD	<i>(BOSCH were available to attend the meeting but due to technical issues were unable to use Skype for business)</i>	ACTION	JD to discuss with AM to use for teleconference calls other than Skype for Business
BOSCH/AW	Andreas sent an email during the meeting explaining that he would provide a full update after.	ACTION	JD to send out AM's updated summary to all partners
C4L/ND E6/ WS	<ol style="list-style-type: none"> Concerning the application requirements, C4L are working closely with E6 in terms of the "cutting application" Also working on the laser parameter requirements of the ablation of diamond In conjunction with E6, C4L are conducting trials C4L / E6 have already started to consider the "machine" (i.e. size of laser) The laser set up at C4L (which has a lower power than the system planned in Hiperdias) is working fine and on track Work has finalised around the "measurement of power" We should have all data which will be communicated in a report at the end of April 	ACTION	E6/C4L to send the report to WP Leader BOSCH and CH at AMP ACTION JD to remind BOSCH as WP Leader to gather all updates into one summary document
KITE/JD USTUTT/MAA	<ol style="list-style-type: none"> In terms of Process and systems specifications LASEA have created a spreadsheet which contains a template for "collecting" interface requirements across partner organisations. This should be treated as a "living document" and sent to all partners so they can provide feedback Discussions with Clemens at AMP have taken place and the consensus is to book a TC involving LASEA (ASAP) to discuss further the parameters <ul style="list-style-type: none"> Dimensions of the laser Modulation of the laser beam 	ACTION	LASEA to re-review Spreadsheet and provide further guidance on how to use it. Then it can be sent out to all partners. JD can assist with this.

<p>LASEA/JRdC</p> <p>C4I/ND</p> <p>USTUTT/MAA</p>	<p>Marwan stated that: The seed that is planned to be provided by AMP is not quite what was expected.</p> <ol style="list-style-type: none"> 11. Supplementary to immediate TC's should be a visit to USTUTT from LASEA so that the laser, machine and interface can be explored further. This relates to T2.1 12. LASEA visit to USTUTT – end of May/ beginning of June (MAA states that this is good timing as there is a USTUTT conference at the end of May) 13. In terms of more pressing communication a teleconference call needs to be arranged for USTUTT, AMP, LASEA and BOSCH 14. It makes sense to start work on T1.4 and T6.1 together in a combined way. They are both delivered in Month 12 15. States that T1.4 is more “theoretical” and that T6.1 is more “concrete/practical, and it makes sense that these two are approached together because the information will complement each other. 16. In terms of the Design of grating compressors MAA states that the first design is complete in terms of what was decided at the kick-off meeting. 17. Discussions have taken place with AMO in terms of production and this is an ongoing task. 18. MAA stated that a design has been created that will exhibit; <ul style="list-style-type: none"> • A diffraction efficiency (in the -1st order) higher 99.9% of the 1030 nanometres (central wavelength of the Yb:YAG based laser systems) • Spectra bandwidth of 20 nanometres with a diffraction efficiency higher than 99% over this 20 nanometres • Damage threshold according to our modelling should be within the specs agreed at the kick-off meeting (~ 0.3 J/cm²). • USTUTT has alternatives that does not have the same line density or angle of incidence but does exhibit better damage threshold 19. MM at AMO was going to send over a supplier spreadsheet with specs and quotations to USTUTT. MAA stated that he has received a few and also recommended others. MAA commented that the last status update was that MM was still waiting on further quotations. 20. In terms of the Thin-disk Multi-Pass Amplifier USTUTT has already a 1st design and work has begun. 21. USTUTT is now discussing the seed which is provided by AMP and the control of the system 22. USTUTT needs to discuss with AMP the method of the control of the system. 23. USTUTT needs to know what the seed will provide in terms of modulation scheme (AOM) and whether it will have the option to get access to both transmitted and diffracted beam in order for USTUTT to implement their modulation scheme (IP of USTUTT). 24. USTUTT needs to involve LASEA and BOSCH as end-users in this discussion. 25. This will be a discussion that makes sense when the end-user requirement are complete at the end of April. 26. A simple 30 question Word Document was sent over to AMP. We wanted to ask if the modulator was still there so that we could implement a modulation scheme. The modulator should remain. According to CH it had been removed. But we have to keep this in so that we can implement a modulation scheme for the thin-disk amplifier. We wanted to ask if there was a possibility to have in their control system of the laser to “add” options to control the pump diode of the multi-pass amplifier 27. Mechanical, electrical and questions around Space asked. 28. We were told that we may get a system at month 6 or 8 a system that is “controlled alone” and we will need a provisory solution that will control our multi-pass amplifier. Especially in terms of pump diode. 	<p>ACTION JD to send out DoodlePoll for TC between USTUTT, AMP, LASEA and BOSCH ASAP.</p> <p>DECISION Approach T1.4 and T6.1 as a combined task as there is a dependency between the two tasks</p> <p>ACTION MAA will discuss further with AMP this design and the feasibility of production ACTION MM at AMO to provide full supplier list to MAA / continue direct dialogue with MAA</p> <p>ACTION Plan a discussion at the end of April with USTUTT, AMP, LASEA and BOSCH- specifically in regards to the seed and the implementation of the modulation scheme</p>
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<p>C4L/ND</p>	<p>29. We discussed the housing and asked about mechanical stability and accommodation.</p> <p>30. AMP deals with 100W lasers and could not recommend solutions for the 500W laser system</p> <p>31. This document could be circulated. This is for the 500W system</p> <p>32. ND asked if a similar document produced for the 200W</p> <p>33. Stated that the information that put together for AMP can be transferred to LASEA's Interface Requirement (Excel) Document</p> <p>34. Suggested that we should first start identifying all the components and that all partners should contribute to this document</p>	<p>ACTION Partners need to identify main components and update LASEA's spreadsheet</p>
<p>WP 4</p>	<p>Photonics, Components for pre-and post-pulse conditioning - XLIM</p>	
<p>XLIM/FB</p> <p>XLIM/FB (gives technical update on behalf of GLO)</p> <p>USTUTT/MAA</p> <p>XLIM/FB</p> <p>XLIM/FB</p> <p>USTUTT/MAA</p> <p>XLIM/FB</p> <p>USTUTT/MAA</p>	<ol style="list-style-type: none"> 1. FB explains that in terms of WP4 there are 4 tasks (Which are due to complete in 2016. There are 6 tasks altogether) <ul style="list-style-type: none"> • T4.1 Design of grating compressors • T4.2 Development of a lithography process for the fabrication of pulse compression gratings • T4.3 Development of an etching process for the fabrication of optical components • T4.5 Fabrication and characterisation of photonic microcell (PMC) module 2. T4.4 and T4.5 will be led by GLO and XLIM will lead on T4.6 3. FB explains that work has taken place around the financial side especially in recruitment for a Post-doc 4. Discussion has taken place around the early design of the PN hollow-core PCF (XLIM) 5. A module has entered a prototype preproduction which is nicely suited to be transformed to have beam delivery standalone for the partners of the consortium and the modules will need input from the partners which will use it for the lasers. The laser specs which have been sent to GLO which allows the modules to be designed and developed. 6. MAA asks whether GLO requires the "laser beam specs" from USTUTT to which FB answers yes these will be needed. 7. In regards to the tasks to which GLO will be working on, AMP are involved. AMP are involved in qualifying the modules and the integrations especially the end-cap. 8. In order for GLO to start development we will require feedback from AMP in terms of the; <ul style="list-style-type: none"> • Spec lasers • Beam size • Average power • Length of modules 9. From a GLO perspective we need to have a discussion with AMP on these items. 10. States that we also need access to these fibres to test it. This process does not only include AMP. We must remember that here are two lasers being developed; <ul style="list-style-type: none"> • 200w - which will be done at AMP • 500w – <u>which also must be tested</u> as stated in the DoA 11. The module is a standalone. The fibre can be tested by different lasers. We do need more detailed specs irrespective of the laser being development. 12. We must keep in mind that the DoA states that we will test the fibers with the 500w to 1kw 	<p>ACTION USTUTT to send over the laser beam specs to XLIM/GLO</p> <p>RISK The specs may not be detailed enough for GLO to work with causing delay (minor)</p> <p>ISSUE Testing timelines of when the laser is</p>

<p>XLIM/FB</p> <p>LASEA/JRdC</p> <p>XLIM/FB</p> <p>USTUTT/MAA</p> <p>XLIM/FB</p> <p>USTUTT/MAA</p>	<ol style="list-style-type: none"> 13. We need a detailed laser testing timeline which will indicate when the laser is ready to test 14. We will spend approx. 1 year in trying to design and qualify the fibre and see whether we can have a PM (Polarization maintaining) effect that leads to a PER (Polarization extension ratio) of 20 dB without being sensitive to additional stress. 15. When ready to dispatch XLIM will inform all partners 16. We are open to idea of conducting trials at LASEA with the 20w laser to get some familiarity/guidance on the fibre 17. FB stated that this would be ok 18. FB provided a summary of a discussion that took place between MAA and himself during the kick-off meeting in regards to discussing “high power”. 19. The discussion was around the beam delivery and the modules. We are interested in having modules as standalone/self-contained as possible. The functionality that we wish to implement for modules is the average power handling. 20. In order for us to first test the fibre and the modules of the lasers up to 1kw we need to have access to a high power laser and refine the design and test it. MAA and FB discussed doing this testing at USTUTT. 21. MAA stated that USTUTT have the following lasers (for a very short time only); <ul style="list-style-type: none"> • 1.1kw CW with a good beam quality that has been demonstrated ($M^2 < 1.3$) • 400w sub-1 – pico second ($M^2 < 1.3$) system that has been demonstrated. It is not a commercial system but it is stable to do experiments (the timings of availability will need to be checked) 22. GIO Teams to visit USTUTT 23. Stated a preference to use a 1kw laser as opposed to a 400w laser 24. Stated that if the visit is successful it will seal the module design and GIO could go to the “pre-production stage” 25. MAA suggested that Fetah and others go to USTUTT as a combined visit and should pencil in the last day of May/first day of June 	<p>ready to test are unclear</p> <p>ACTION Create a Laser testing timeline</p> <p>RISK There may be limited availability of lasers which are dependent on external dependencies like institute timings.</p>
WP3	Ultrafast Laser Front-end Development - AMP	
<p>AMP/CH</p> <p>USTUTT/MAA</p> <p>AMP/CH USTUTT/MAA</p> <p>AMP/CH</p> <p>C4L/ND AMP/CH</p>	<ol style="list-style-type: none"> 1. CH explained that AMP will provide the (50W, 300-400fs) laser on a “short-term basis” 2. The laser will not contain much R&D as it very similar to a “standard product”. However, there will be some “optimisation work” which is in progress to configure the laser to fit the multi-pass amplifier 3. Discussions have taken place around the 50w laser 4. The modulation work and related IT that is taking place on a much “longer-term basis”, relates to work specific to the 200w laser and <u>not</u> the 50w laser 5. The 500w laser will also require modulation and there is a task directly related to this. 6. CH states that this is understood 7. MAA stated that access to the second beam (a pragmatic approach) needs to be clarified 8. We don’t have a fixed date for the installation and delivery of the 50w laser. We can probably advance this a little but as yet we won’t commit to a fixed date 9. ND asked CH if the drawings were realistic for the 200w laser. 10. CH checked email and measurements are satisfactory. 	

USTUTT/MAA	<ol style="list-style-type: none"> 11. CH raised the issue that BOSCH have very hard requirements which could restrict R&D work. 12. MAA stated that during the kick-off meeting there was discussion that the laser would go to BOSCH. The solution to mitigating any risk threatening to slow down R&D work is to satisfy as much as possible the requirements for the laser and machine specs for the end-users to perform their applications work. 	
WP8	Dissemination & Exploitation Planning - KITE	
<p>KITE/JC</p> <p>KITE/JC</p>	<ol style="list-style-type: none"> 1. JC gave a brief overview of the dissemination and exploitation planning 2. JC opened up a “Screen share” in Skype for Business and showed partners development work that has taken place on the Task 8.1 relating to the website which carries a deliverable D8.1 Website established 3. The Website contains information relating to partners and has a “member’s area” which will hold the usual information that will be expected by partners. The members’ area will act as a secure central repository so that everyone can find information quickly and securely. 4. Partners will need to review information that is a specific to themselves and approve the content before the website is made live 5. The website’s content will be finally approved and signed-off by MAA / JC 6. In terms of T8.2, work has begun on Communication kits which relate to material required by partners for conferences, publications and tradeshows etc. 7. JC asked partners about up and coming conferences and events where Hiperdias would be disseminated : MAA – will be attending Photonics Europe ND – Attending a conference in Geneva MAA- has attended a workshop held by C4L whereby C4L have talked about Hiperdias 8. JC stated that an up and coming deliverable (D8.3 Video presentation of the Hiperdias project) is due in May. 9. The video can only be an introduction to the Hiperdias project, since there are no results yet. It would make sense to have another video later in the year when there are results. 10. JC explained that this is entirely possible and should not be a problem to do. It is also possible to have a video right at the end of the project 	<p>ACTION JC to send partners a link to the website for an initial review</p> <p>ACTION Partners will need to send an updated photo of themselves and any other up to date picture of themselves and any other material they deem appropriate that could be used on the website.</p> <p>ACTION Partners to forward details of events/ activities that could be used on the website and logged</p> <p>ACTION JC to catch up with MAA to discuss video in more detail.</p>
WP9	Project Management	
KITE/JD	<ol style="list-style-type: none"> 1. The current pending deliverable is T9.1 Project Management Handbook which is currently in question over a section relating to publication access rights. The query is with the PO. However, this is a “living document” and will be submitted. 2. An Amendment Session on the participant portal has been opened in regards to the addition of CNRS at XLIM. The details have been logged and this is now with the commission. 3. In the DoA it states that WP Leaders should gather updates and provide status summaries of their work packages and be responsible for ensuring that relevant partners are up to date. KITE can assist with this if needed perhaps in the sense of providing useful templates to assist with this process. 4. The Members area on the Website will help centralise information properly 	<p>ACTION JD to send out T9.1 and submit to EU Participant Portal</p> <p>ACTION JD to keep Consortium informed of amendment process</p> <p>ACTION JD to keep Consortium informed of amendment process</p>
	<p>Next Teleconference Suggested: End of April / 1st week of May</p>	<p>ACTION JD to send out a DoodlePoll</p>