





# **EU Hardwoods**

#### kick-off meeting / 13.03.2014

Peter Linsenmann

### Agenda



| 08:30 – 09:00 hrs | general issues, funding situation |  |  |  |  |  |  |  |
|-------------------|-----------------------------------|--|--|--|--|--|--|--|
| 09:00 – 10:30 hrs | NP2 – detailed work plan          |  |  |  |  |  |  |  |
| 10:30 – 12:00 hrs | WP1 – detailed work plan          |  |  |  |  |  |  |  |
| 12:00 – 12:30 hrs | lunch                             |  |  |  |  |  |  |  |
| 12:30 – 13:15 hrs | WP3 – update                      |  |  |  |  |  |  |  |
| 13:15 – 14:00 hrs | WP4 – update                      |  |  |  |  |  |  |  |
| 14:00 – 14:45 hrs | WP5 – update                      |  |  |  |  |  |  |  |
| 14:45 – 15:30 hrs | WP6 – update                      |  |  |  |  |  |  |  |
| 15:30 – 16:00 hrs | any other business, next meeting  |  |  |  |  |  |  |  |

## kick-off – general



14.11.2013 acceptance of EU Hardwoods for funding

| strength  | weaknesses   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
| important topic   | German partners partly have a service function only                        |  |  |  |  |  |  |  |
| objective & goals clearly defined   | more partners from industry would be desirable                             |  |  |  |  |  |  |  |
| reasonable budget   | dissemination towards users (architects, designers, etc.) must be enforced |  |  |  |  |  |  |  |
| very interesting project  |  |  |  |  |  |  |  |  |
| focus on representative species (in France): oak, beech (and ash)                 |  |  |  |  |  |  |  |  |
| innovative, addresses challenge   |  |  |  |  |  |  |  |  |
| Recommendation $\rightarrow$ The deliverables should be described more precisely. |  |  |  |  |  |  |  |  |

### kick-off – general



- intention for this kick-off
  - $\circ\,$  coordination within the WPs by the leader
  - $\circ~$  each WP leader should prepare a presentation
- definition and discussion of the next steps

### funding situation



| country | submission<br>national proposal | approval   | possible<br>start |
|---------|---------------------------------|--|-------------------|
| AT      | 07.02.2014                      | pending<br>details to be clarified (VAT,)<br>HFA submitted for all AT partners | 01.03.2014        |
| DE      | in preparation                  | no official funding until July<br>eligible costs probably from May             | ?                 |
| FR      | 31.01.2014                      | pending  | 01.03.2014        |
| SI      | end of 2013                     | granted  | 01.03.2014        |

# funding situation



| Task | 20 | 2014 2015 |  |  |  |  |  |  |  | 2016 |  |  |  |  |  |  |  |  |  |
|------|----|-----------|--|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|
| 0    |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 1.1  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 1.2  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 1.3  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 2.1  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 2.2  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 2.3  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 3.1  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 3.2  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 4.1  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 4.2  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 5.1  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 5.2  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 5.3  |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| 6    |    |           |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |

#### review of the minutes



#### meeting of 25.07.2013

| more SMEs:  |     |
|---|-----|
| AT: Fachverband der Holzindustrie   | HFA |
| DE: Studiengemeinschaft Holzleimbau, 1 producer glulam with hydraulic press,<br>1 producer of window scantlings | MPA |
| SI: 2 producers available who could join the project on a small scale   | CBD |
| HFA will included distinct information on the new SMEs in chapter 3.5   | HFA |
| improving deliverables: please consult each WP.   |     |

### WP0 – management



management split between HFA and Uni LJ

HFA

- o time schedule (e.g. milestone fulfilment)
- o reporting to WWN
- o meeting organisation and leadership

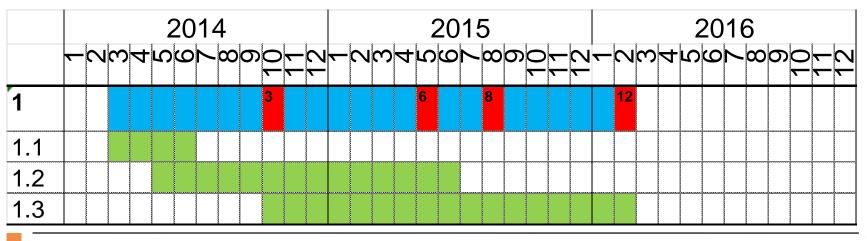
## Uni LJ

- content (e.g. deviations from proposal)
- o seminar organisation
- o publications
- web space





| 1   | WP1 - hardwood resources in Europe             | FVA (lead), |
|-----|--|-------------|
| 1.1 | quantification of recent resources in Europe   | FCBA, Uni   |
| 1.2 | forecast to future resource availability       | LJ, BFW     |
| 1.3 | log quality and roundwood allocation potential |             |



### WP1 – review minutes



| expected outcome: report on European hardwood resource with respect to the<br>building sector (actual potential and forecasts). | FVA |
|---|-----|
| todo: define species, redefine content, communicate with partners concerning input<br>and available data                        | FVA |

### WP2 – review minutes



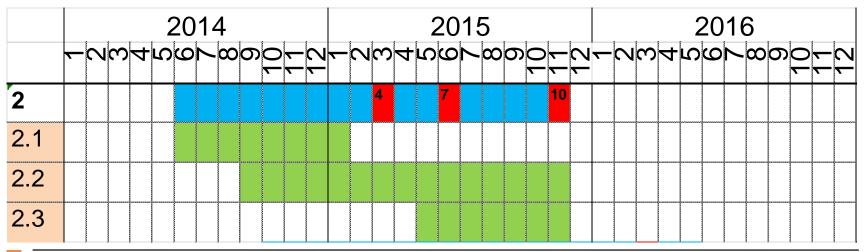
| expected outcome: report on existing European testing data, allocations and basis |     |  |  |  |  |  |  |
|---|-----|--|--|--|--|--|--|
| for simulation of hardwood lamellas ("EN1912", beech, oak, ash, maybe chestnut    | HFA |  |  |  |  |  |  |
| (FR))   |     |  |  |  |  |  |  |
| todo: clarify the synergies between WP2 and WP3 for the full proposal.            | HFA |  |  |  |  |  |  |

todo: clarify the synergies between WP2 and WP3 for the full proposal.





| 2   | WP2 - Basic hardwood strength data and           | HFA (lead),  |
|-----|--|--------------|
|     | grading tools                                    | FCBA, Uni    |
| 2.1 | survey on existing lamella data with respect to  | LJ, FVA, FVH |
|     | species and dimensions                           |              |
| 2.2 | allocation of hardwood lamellas to strength      |              |
|     | classes, additional lamella testing if necessary |              |
| 2.3 | attempt to consolidate visual grading rules and  |              |
|     | address obstacles in machine strength grading    |              |



### WP2 – working plan



| WP   | content  | - | 2 | က | 4 | _ | 20<br>©I |  | <u>ہ</u> | 2 | <br>1 | 2 | က | 4 | _ | 20^<br>201 | · • | Σ | <u>א</u> ר<br>אר | 2  | 12 |
|------|--|---|---|---|---|---|----------|--|----------|---|-------|---|---|---|---|------------|-----|---|------------------|----|----|
| 2    | WP2 - Basic hardwood strength<br>data and grading tools  |   |   |   |   |   |          |  |          |   |       |   | 4 |   |   | 7          |     |   |                  | 10 | Γ  |
| 2.1  | survey on existing lamella data with respect to species and dimensions   |   |   |   |   |   |          |  |          |   |       |   |   |   |   |            |     |   |                  |    |    |
| aims | literature study on existing<br>hardwood (mechanical) data;<br>hardwoods in visual and machine<br>strength grading     |   |   |   |   |   |          |  |          |   |       |   |   |   |   |            |     |   |                  |    |    |
|      | literature survey pt. 1 (existing<br>allocations, existing visual grading<br>rules, existing machine grading<br>input) |   |   |   |   |   |          |  |          |   |       |   |   |   |   |            |     |   |                  |    |    |
|      | data collection (required main content currently in prepation)   |   |   |   |   |   |          |  |          |   |       |   |   |   |   |            |     |   |                  |    |    |
|      | data verification and discussion on<br>aspired strength class combinations<br>incl. grading rule                       |   |   |   |   |   |          |  |          |   |       |   |   |   |   |            |     |   |                  |    |    |

#### survey - data, grading



- WG2 meeting
  - o 26.03. 28.03.2014 Paris
  - initiative of Tobias Wiegand for hardwood standard
    → Ulrich Hübner will get recent information

#### survey - standards



- standards for visual hardwood grading listed in EN 1912
  - o DIN 4074-5
  - o INSTA 142
  - o UNE 56-546
  - o BS 5756+A1
  - o (NF B 52-001 T2)

### data collection



- focus on tension data
- set of parameters currently in preparation
- first step
  - $\circ$  species
  - o institute
  - o cross-section
  - o country & region
  - $\,\circ\,$  strength, MOE, density acc. to EN 384
- second step
  - visual grading data
  - o machine grading data

### working plan



| WP   | content   | <u>,                                     </u> | ~ | 1<br>N | 4 | 20<br>0 | • | • | თ | 10 | <br>12 | ~ | 2 | n | 4 | <br> | 15<br>~ | 200 |       | 12 |
|------|---|---|---|--------|---|---------|---|---|---|----|--------|---|---|---|---|------|---------|-----|-------|----|
| 2.2  | allocation of hardwood lamellas to<br>strength classes, additional lamella<br>testing if necessary                                  |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
| aims | allocation of as many hardwoods as<br>possible in EN1912 for as many<br>countries as possible; if necessary,<br>additional testing  |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
|      | decision on allocation based on<br>report only or report to TG1 for<br>EN1912   |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
|      | allocation based on existing data:<br>number of specimens graded acc.<br>to which grading rule can be<br>allocated to which D-class |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
|      | new data (if necessary):<br>discussion on what to test (species,<br>source, grading rule, dimension,<br>number of specimens)        |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
|      | material supply   |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     | $\pm$ |    |
|      | visual grading and tensile testing<br>(who is testing what)   |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |
|      | allocation based on existing and new data   |   |   |        |   |         |   |   |   |    |        |   |   |   |   |      |         |     |       |    |

## working plan

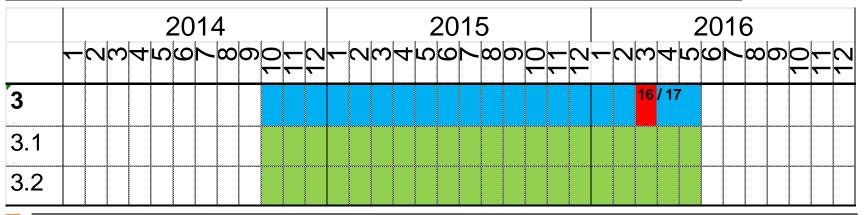


| WP content  | <u>-0</u> 04 | 2014<br><u>5000000000000000000000000000000000000</u> | 2015<br> |
|---|--------------|--|----------|
| 2.3 attempt to consolidate visual<br>grading rules and address<br>obstacles in machine strengt<br>grading                       |              |  |          |
| aims harmonised visual grading ru<br>under which circumstances is<br>strength grading possible (e.<br>handling / manipulation,) |              |  |          |
| - literature survey pt. 2 (atter<br>consolidate visual grading ru<br>obstacles in machine grading                               | es,          |  |          |
| - compendium hardwood us<br>question)   | ge (in       |  |          |





| 3   | WP3 - Adhesives for structural hardwood<br>bonding  | MPA (lead),<br>FCBA, HFA |
|-----|---|--------------------------|
| 3.1 | general: species dependent adhesives types,<br>product dependent integrity tests designed for<br>hardwoods, quality procedures adapted for<br>hardwoods                                       |                          |
| 3.2 | finger-joints: consolidate finger-joint data in<br>solid wood and laminations, investigate<br>influence of size and finger-joint type for the<br>different species with accomplishing test if |                          |



### **WP3 – review minutes**

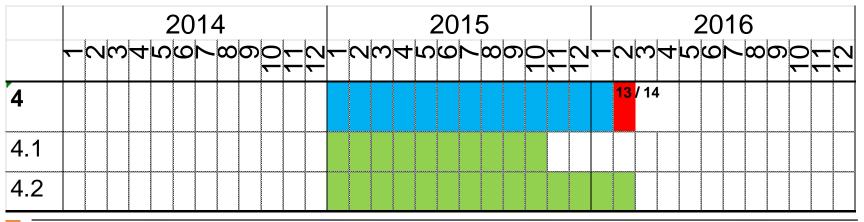


| expected outcome: report on overview of adhesives for face bonding and finger-   | MPA |
|--|-----|
| joints, modification of adhesive tests and requirements for future adhesives for |     |
| hardwood approvals (new glues, new test methods, …)                              |     |
| todo: rewrite the proposal for this WP in this manner more precisely             | MPA |





| 4   | WP4 - Glulam made of hardwoods or              | FCBA (lead), |
|-----|--|--------------|
|     | hardwoods and softwoods                        | HFA, MPA,    |
| 4.1 | simulation of glued laminated hardwood timber: | Uni LJ,      |
|     | - homogeneous                                  | Simonin      |
|     | - inhomogeneous                                |              |
|     | - hybrid                                       |              |
| 4.2 | validation testing for assortment of build-ups |              |
|     | (produced under factory conditions)            |              |



### WP4 – review minutes

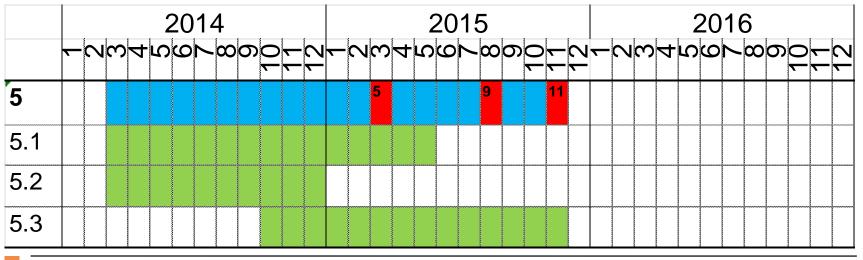


| expected outcome: equation for finger-joint strength with respect to lamella strength,    | FCBA |
|---|------|
| scientific basis of EN14080-2 hardwood glulam including adapted strength model            |      |
| todo: adapt the WP to modeling first, testing only in missing part or exclusively to test | FCBA |
| the outcome of the model.   |      |





| 5   | WP5 - Cross-laminated hybrid timber              | MPA (lead),<br>CBD |
|-----|--|--------------------|
| 5.1 | out-of plane loading (e.g. floors)               |                    |
| 5.2 | in-plane loading (e.g. walls)                    |                    |
| 5.3 | derivation of basic strength profiles and design |                    |
|     | rules  |                    |



### **WP5 – review minutes**



| expected outcome: report on new product hybrid hardwood / softwood x-lam;<br>improved shear, compression perp., bending capacity; potential for the building<br>sector (medium and high rise buildings); use of low quality "energy" material, focus on<br>beech  | MPA/CBD                     |
|---|-----------------------------|
| todo: very high variation within this WP (dimension, glue, pressing, planing,)<br>needs to be limited in the proposal!<br>clear definition to keep the parameters at bay ("reducing the matrix")<br>material modeling for mass production for beech-softwood combinations<br>exact design scenario available and possible usage presented in comparison to<br>present products e.g. increasing shear capacity with very low beech qualities,<br>deriving basic strength properties for hybrid CLT | MPA<br>together<br>with CBD |

# WP6 – dissemination (Goran Turk)



- web space
- conference presentations
- joint articles in European Journal for Wood and Wood Products (> 3)
- two seminars for architects / civil engineers
- → keep track on dissemination and start in time

#### next steps



- define project start
- minutes (together with presentations) until 21.03.2014
- updated time table until 21.03.2014

### how we would like to proceed



- coordination within WPs important to keep up with work
- content preparation and definition focused on WP as well as on the whole project
- suggestion:

each WP leader prepares every two months a short report on the state of the art to send out to the consortium

### any other business



- date for the next meeting
- consortium agreement!





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