The International Learning Network on Sustainable Design （LeNS_in)

国际可持续性学习网络的网络（LeNS_in)

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Article
Project introduction

The LeNSin project aims at the internationalization, intercultural cross-fertilization and accessibility of higher education by consolidating and empowering a global network called the Learning Network on Sustainability. This network is composed of 6 existing, functioning regional networks: LeNS_Brasil, LeNS_Mexico; LeNS_South Africa, LeNS_China, LeNS_India and LeNS_Europe. The project stresses curriculum development in the field of Design for Sustainability (DfS) focused on Sustainable Product-Service Systems (S.PSS) and Distributed Economies (DE), both known as promising models to couple environmental protection with social equity/cohesion and economic prosperity.

LeNSin fosters capacity building in each region through 5 Seminars and 10 Curricular Courses, designed and implemented by the Partner countries' and European HEIs in close collaboration and involving local companies/NGOs/institutions.

The two supporting structures of the project are:

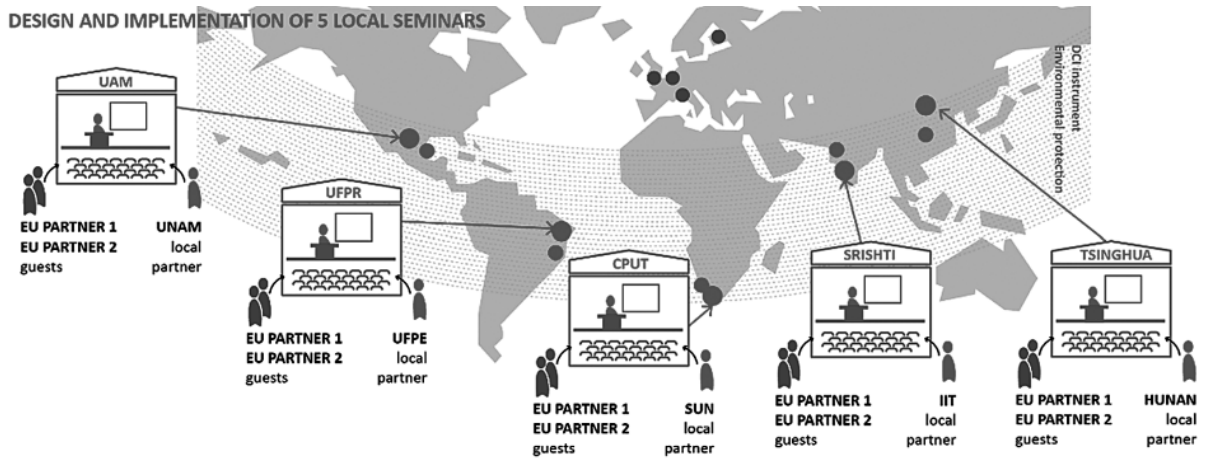
-The distributed Open Learning E-Platform (d.OLEP): a decentralized web platform enabling distributed production&transfer of knowledge, adopting a learning-by-sharing mechanism with an open&copyleft ethos. It is a repository of learning resources (slide shows, video, audio, texts, etc.) and tools that any teacher can download for free and reuse and adapt to contextual conditions.

-A set of labs (LeNS_labs) that: support students, teachers, researchers and local stakeholders with DfS tools and resources; host the d.OLEP with regionally developed resources and tools; and act as hubs connecting all LeNS_labs with local and global HEIs and companies/NGOs/institutions in a multipolar scheme.

The d.OLEP and the labs will remain after the project end to ensure endurance of the action. An international "Decentralized Conference" (5 simultaneous national Conferences in the Partner countries and 1 in Europe) and a Students' Design Award further disseminate the project results.

Main activities of LeNSin project

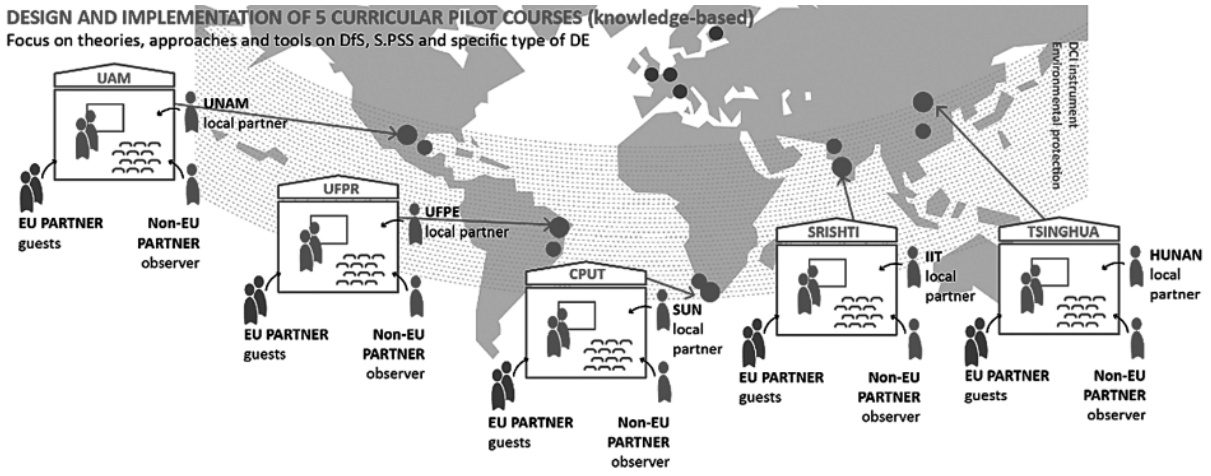
1] Design and implementation of seminars. To design, organise and implement 5 seminars (one for each main non-European partner). This seminars will bring together (in addition to local partners and 2 European partners) local design HEIs and representative from local companies/consultancies/



Figher 1. Design and implementation of 5 local seminars

associations. Seminars are primarily aimed at collecting the widest and most advanced knowledge on DfS focused on S.PSS&DE. In particular they will deepen the topics of interests defined in WP1 and gather insights to be used to design the pilot courses. Seminars will take place within the end of month 12 and, in any case, before the implementation of the first round of pilot courses. All speeches will be video recorded and video, slideshows and other learning resources will be made freely available on the d.OLEP.

2] Development and implementation of curricular pilot courses and related learning resources and design tools. In both the cases this activities will include: (1) the design of the pilot course prototypes, i.e. definition of a comprehensive teaching syllabus regarding contents, teaching methodologies, tools, techniques and evaluation procedures, according to the exchange agenda defined in WP1; (2) the selection and development of disciplinary and thematic didactic support material: learning resources, books and booklets, slideshows, software tools, etc. The whole of this materials and subsidies will support the launch and implementation of 10 curricular pilot courses (2 for each non-European institution) to be carried out within a total period of 24 months (two academic years) through exchange modalities defined in WP1. The first round of 5 curricular pilot courses will focus on theories, methods and tools of DfS focused on S.PSS&DE (each of them addressing the specific topics (DE type) of interest identified in WP1 and deepened in the seminars). The second round of remaining 5 courses will be project-based, with live design briefs given by local companies/organisations.

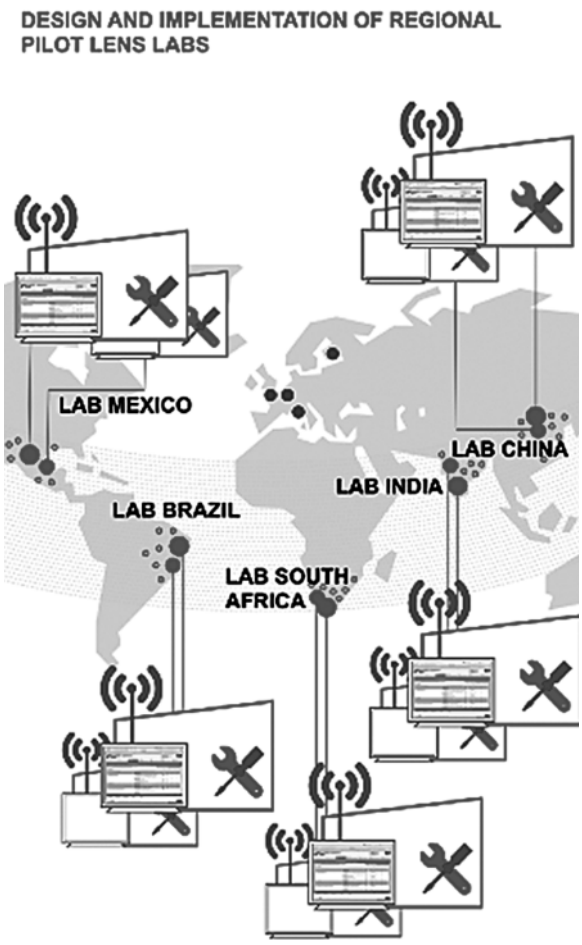


Figher 2. Design and implementation of 5 corricular pilot courses(knowledge-based)

3] Design and Implementation of the 5 LeNS regional pilot labs in the non-European partner institutions. LeNS regional labs are aimed and will be used to: a) support undergraduate and postgraduate teaching (teacher will use the lab ' s resources and tool to enrich the teaching of DfS-related courses; b) support students ' projects (students will get access to the resources and tools offered by the lab when developing design projects with a sustainability focus); c) support PhD students and researchers activities (allowing them to get access to the latest resources and tools on DfS) d) host the d.OLEP with regionally developed resources and tools; e) strengthen the link between universities and the local productive sector

(the lab and its resources can be used by the university to collaborate with companies and other organisations research projects and consultancies); f) finally it is important to highlight that the labs also enable a long distance and multipolar collaboration among different LeNS regional labs (theme with local&global HEIs and companies/NGOs/institutions), enriching all the previously listed activities from a) to e).

This activity will include the detailed identification of the needed space, equipment and resources (e.g. software, books, etc. as well as videoconferencing facilities) needed for each LeNS regional lab, followed by the implementation of the labs.



Figher 3. Design and Implementation of the regional pilot LeNS labs

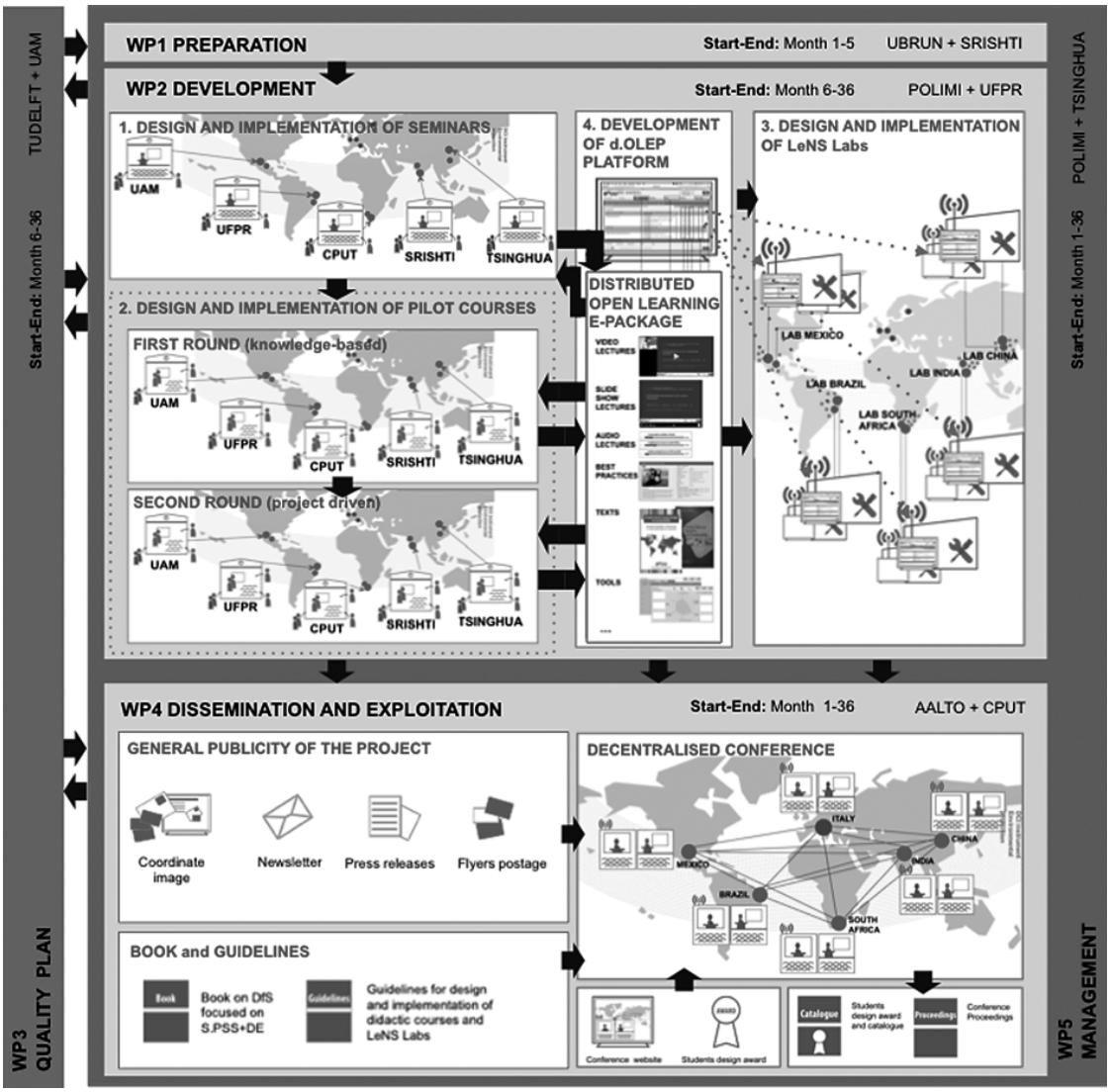
4] Development of the decentralised Open Learning E-Platform.

To develop an decentralised Open Learning E-Platform (d.OLEP) for the distributed production, distribution and fruition of knowledge and know-how on DfS focused on S.PSS&DE, with a modular and adaptable package for curricular courses composed by: learning resources (video, slide shows, texts, audio, etc.), teaching tools, design tools, guidelines for courses design & implementations, and courses and modules programs examples. It can be described as a modular e-package of teaching materials and tools that researchers/educators (as well as students, designers, entrepreneurs and interested persons/ institutions) worldwide will be able to download (free of charge), modify, remix and reuse, i.e. in a copyleft ethos. The d.OLEP will allow the exchange in an openethos and with a learning-by-sharing approach of teaching subsidies, between all HEIs, favouring in this way a multipolar dissemination, as well as the intercultural cross-fertilisation and consolidation of project results, i.e. knowledge-base and know-how on DfS focused on S.PSS applied to various type of DE. The design and development of the distributed web platform will be based on the already developed and tested LeNS and LeNSes platforms (Asialink and Edulink EU funded projects).Below the overall structure of the LeNS.in activities is pictured.

LeNSin tools

To achieve this both a decentralised Open Learning E-Platform (d.OLEP) and a set of regional LeNS_labs in each involved country will be developed:

- The decentralised Open Learning E-Platform (d.OLEP) is a webplatform that enables a distributed production & fruition of knowledge in an open&copyleft ethos on design for sustainability, i.e. the d.OLEP is conceived as a decentralised repository of learning resources (slide shows, video, audio, texts, etc.), tools



Figher 4.the overall structure of the LeNS.in activities

and guidelines to support courses design & diffusion and learning resources sharing.

- The LeNS regional labs are spaces where students, teachers, researchers as well as local interested stakeholders can get access to a set of tools,resources and facilities for DfS. LeNS_Labs aim at: supporting the development of learning resources and implementation of the pilot didactic courses hosting one of the decentralised OLEP (Platform) with its contents OLEP (E-Package); acting as a hub connecting in a multipolar scheme any LeNS_lab of the network, as well as local and global HEIs, by adopting an intercultural approach to favour knowledge cross-fertilisation.

The d.OLEP will be designed as a tool to be used (without maintenance) even after the grant end, continously empowering the international Network developed in the project; potentially attracting fundings

from public and private entities. The LeNS_labs, will be designed to be permanent after the project end, empowering local use of d.OLEP, strengthening the link between HEIs and the local productive sector and enabling a long-distance collaboration among regional LeNS_labs. Institutional sustainability: project partners have appropriate Faculty procedures and intend to incorporate new curricula on DfS in regular programmes at UG and PG level. This will be facilitated by the local ownership of action outcomes, developed on the basis of local needs and priorities. Didactic modules will be further sustained via relationships with industries and organisations for courses settled up and targeted during dissemination activities. Policy level sustainability: the book and the web platform from the project, together with the other dissemination activities (in particular the final decentralised Conference) will be targeted even to Governments, public institutions and associations, providing them with sustainable strategies, approaches and concepts. In the medium-long term, this will potentially result in the adoption of governmental strategies and policy measures for embedding DfS into planning initiatives within HEIs and industry, in order to respond to local-sustainability challenges. Environmental protection sustainability: the action will contribute to curricula capacity development in the area of environmental protection. The ambition is to equip students and practitioners with conceptual and operative tools to design sustainable Product-Service Systems. For this reason in the medium-long term the action could contribute in creating and disseminating innovative solutions on DfS. The d.OLEP will also allow long-distance collaborations and relationships, reducing travels and related environmental impacts.

LeNS-China project proposal

Lens-China as the core partner in Asia,has involved in many activities with the other partners worldwide.Through the bridge bulit by LeNS,many teachers,students and even some business partners have been benifited by the knowledgment and the cooperations in the pastfew years.Taking Wuhan University of Technology (WUT in short) as an example,since Prof.LV jiefeng went to Politecnico di Milano (Polomi in short) at 2012 as an visiting scholer,one polit course for master degree students named " Sustainable oriented Product-Service System Design " (S.PSS in short) ,and some design workshops with the aim to introduce the theory and design toolkits of S.PSS have been luanched. Moreover,with the help of Pro.Carlo Vezzoli,more and more students choose to do their Master or Phd in Polimi,which definitely leading the connection to a meaningful and bright future. For the new LeNSin project,the LeNS-China will keep on servicing both the network and all the stakeholders,in other words,the project will continutely supply more resources as the pilot courses,Labs,tools,and some other materials.

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术与科学相互交叉的新学科不断产生新的知识结构及创新价值体系正在悄然发展 ”[3]。其中，众筹模式呈现着对设计产业的重要价值。其实，众筹的问世本身就是创意与技术的融合结果。“ 众筹（Crowd Funding） ”是指创意者透过网络平台对公众展示创意，吸引大众关注并获得创业援助，具有限制较低、形式多样、注重创意等特点。

当前，设计产业的众筹模式发展迅速，对其实践方式的独特性产生了不少的影响。一是借助互联网快捷的信息集散特点，为大众参与创新设计项目提供了直接的对接平台；二是提前介入产业链前端，通过众筹模式发布创意项目，可以对大众意向进行评估、吸收，一定程度上防止了项目的损失；三是为汇集松散设计资源的有效途径，创新设计团队能够借助众筹平台获得反馈和优化的建议。

五、 结语

“ 科学技术的发展必然引起人们的生活方式、生活态度和情趣的一系列变化。”[1]2 大数据和“ 互联网 + ” 正带来深刻的思维转变，创新设计产业的发展也深受其影响，当用户已经形成互联网思维时，创新设计产业也必然在创新思维、创新方式、产业形态、发展模式上产生相应的变化，这些都是“ 互联网 + ” 设计产业需要认真研究的问题。

注释

① 图片来源：“ 小米产品营销及产品分析 ”.http://www.ximisoft.com/?p=624.

② 图片来源：“ 从市盈率看亚马逊的生存逻辑 ”.http://zhenyuan.baijia.baidu.com/article/20533.

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