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StarTree

Multipurpose trees and non-wood forest products a challenge and opportunity

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Collaborative Project

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D 5.5 Database of innovative examples for new forest products – final version

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Executive summary

The StarTree Innovation Database is one of the main outputs of the StarTree project. The database at the moment includes 44 detailed cases collected during the project. The open access of the database facilitates a broad dissemination. This deliverable explains the database development, the methodology for case selection, and it provides a description of the cases. Due to the big variation of forest types, forest landscapes, socio-economic condition and importance of NWFP and Multi-Purpose Trees (MPT), the 14 Regional Case Study Regions (CSR) become a focus of not only the StarTree project but also the innovation cases. The collection of the innovation cases followed a common design and aimed at including cases that are diverse in terms of countries and European regions, non-wood product types and different types of innovation. The data collection was done by various means: via collection of In-Depth Case Studies (IDCS) from CSR, via questionnaires of the WP5 related to the national innovation policies and actors in NWFP sector, during the field trip visits at the StarTree meeting, on bilateral basis with the partners and other interested parties, as well as via social networks with a wider audience (StarTree Facebook page).

The 44 innovation examples of the StarTree database represent a solid basis for an overview of the current situation, identifying current trends regarding NWFPs and patterns of innovations in this field. Each case contains the following characteristics: title of the innovation case, name of the company, country, description of the innovation, general information about the company (type and size), relevance to the market, chronology of the innovation development, information related to the outcomes and a brief analysis of the innovation case. The 44 cases are from the following 15 countries: Austria (7), Belarus (1), Denmark (1), Finland (6), Germany (1), Italy (3), Latvia (4), Macedonia (1), Portugal (2), Russia (6), Scotland (4), Serbia (1), Slovenia (1), Spain (2) and Wales (4).

From analysing the 44 cases, the following patterns can be identified. The majority of collected innovation cases are run by micro and small companies, are new to the sector and are marketing innovations. They mostly belong to the sphere of food and beverages, but there are also innovations in other areas, such as providing trainings, the NWFP-specialized services, using chemical and pharmaceuticals gained from NWFPs in industry, and organizing many outdoor activities and entertainment around NWFPs. This wide scope of fields is remarkable and means on the one hand a great potential and opportunities for activities of forest holdings, on the other hand it is an important challenge as they need expertise from quite different knowledge fields as well as network connections in various different sectors. It seems typical that our cases often connect to modern lifestyles which re-appreciate traditions, wild, natural and/or sustainable products, often in a high-price segment such as organic or health products.



Further cases are going to be collected until the end of the project. The database will be one central element of the planned StarTree Innovation Generator to be installed on the StarTree website.



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1 Aims and background of the innovation database

1.1 Introduction

The StarTree Innovation Database is one of the main outputs of the StarTree project directed to policy and practice.

The aim of the StarTree Innovation Database is to facilitate dissemination and exchange of relevant information about innovation aspects related to non-wood forest products (NWFPs). At the core, it aims to provide inspiring ideas for new products but it also has the ambition to deliver understanding of potentials and challenges related to new NWFPs. The open access of this database secures a stable basis for gathering, analysing and disseminating information on innovativeness related to NWFPs. The StarTree Innovation Database is an integral part of the “Forest Policy and Forest Innovation Database” (see Figure 1) and can be found under <http://policydatabase.boku.ac.at>. Through this connection, synergies are expected regarding effective dissemination of the database and its future maintenance. Gaining access requires a simple registration and approval from the website administrator.

At the moment the full Forestry Innovation Database consists of around 400 innovative cases (from all forestry aspects), representing valuable resource for scientific and research communities dealing with innovation issues and entrepreneurs, managers, rural communities willing to learn, find out more about NWFPs either to improve their business or their knowledge. The envisaged database users include researchers, students, rural communities, entrepreneurs, forest owners and service providers, etc.

Spreading the information about innovation and innovative ideas in rural areas is one of the challenges that database is faced with. Innovation is equally relevant to rural development activities involved in identifying new markets for NWFPs, developing new partnerships or adapting proven approaches to different circumstances, as it is to creating new products, introducing new services, or testing and implementing new ways of networking between rural development actors and entrepreneurs, but also to rural citizens who are identified in many cases as a collectors of NWFPs or as a very important actor in this process.

The database of innovative examples on NWFPs and Multi-Purpose Trees (MPT) is with open access. The registration is simple and quickly: visiting the database website <http://policydatabase.boku.ac.at> registration takes only 5 minutes for filling necessary information.

All cases in the database are provided for free and present real life examples across a broad range of forestry related enterprises mainly from EU, but also some examples outside EU are presented that may be of interests for the database users.



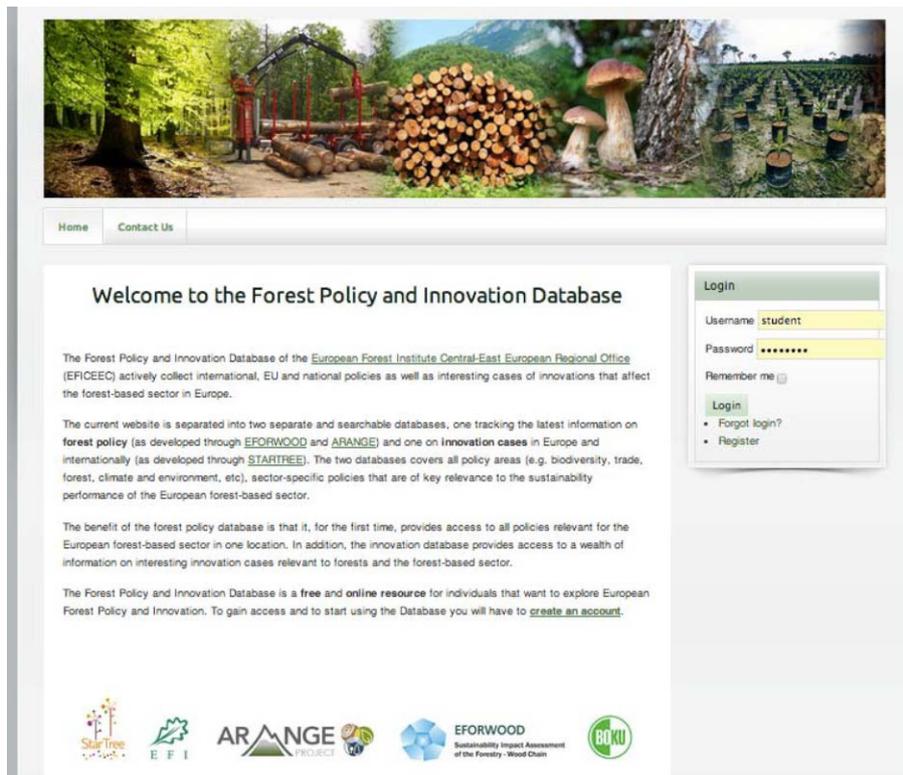


Figure 1. Forest Policy and Innovation Database (<http://policydatabase.boku.ac.at>)

1.2 Structure of the Deliverable D 5.5

The Deliverable D 5.5 provides an overview of the StarTree innovation database, by presenting the process of database development, its structure and content (the cases related to innovation in NWFP sector). During the StarTree project, 44 new cases related to innovation in NWFP sector were collected.

The following chapter 2 presents the methodology of case-related data collection, as well as the structure of the database. Chapter 3 gives a description of the cases related to NWFP. An analysis of existing cases is presented in chapter 4, which is followed by conclusions and a future outlook.

2 Database structure

2.1 Data collection

Europe is characterized with big variation of forest types, forest landscapes, socio-economic conditions and varying importance of NWFP and MPT. In order to have appropriate regional representation as well as diverse variation the 14 Case Study Regions (CSR) were selected to be part of StarTree project (Alentejo Region - Portugal; Bursa Province - Turkey; Catalonia - Spain; Latvia - Latvia; North Karelia – Finland; Osrednjeslovenska Region - Slovenia; Province of Valladolid – Spain; Scotland – United Kingdom; Styria Region – Austria; Suceava – Romania; Šumadija and Western Serbia - Serbia; Trentino-Alto Adige - Italy; Waldenmarker Region - Germany; West Wales and the Valleys - United Kingdom). The RCS secure diversity in countries, regions, products and different types of innovation.

This variety of the regions involved in the StarTree project, as well as the project design, enable the collection of wide variety of innovation cases across Europe. For the innovation database cases were collected by various means, such as:

- via the collection of In-depth case studies (IDCS) from the CSR, focusing in detail on selected innovation cases from the regions
- via the questionnaires of the WP5 related to the national innovation policies and actors in the NWFP sector (see Deliverable 1.2 “Compilation of protocols for case study data collection”)
- during the field trip visits at the StarTree meeting
- on the bilateral bases with the partners and other interested parties
- via social media interaction with wider audience (StarTree Facebook page¹)
- through additional search by means of web and literature search, personal contacts, etc.

The in-depth case studies (IDCS) from the CSR were the most important source of identification of innovative examples. The StarTree partners conducted detailed research via their network for identification of most relevant innovative cases. Upon selection of the cases (and consultation with the WP5 group) RGS representatives conducted a number of interviews with all relevant actors involved in the innovation cases (e.g. company owners, forestry agencies, touristic agencies, cooperatives, etc.). The description of each case was provided in the form of the reports, based of which the information for the database is drafted.

Focused visits and the brochures provided during the StarTree project meetings helped also in finding new innovative cases. During these visits, it was possible to get in direct communication with innovation case representatives (e.g. company owners) which was shown to be valuable source or information for describing the cases (e.g. Latvian cases, some of the Finish cases in the database)

The StarTree database at the moment represent a basis for explaining the situation related to innovation products and services in the field of NWFPs around the Europe. At the moments, the database contains 44

¹ https://www.facebook.com/starttreeproject/?ref=aymt_homepage_panel



detailed cases. This helps to get overviews of the situation in this field but also to identify the innovation trends regarding innovative NWFP products.

The innovation database will be continuously monitored and updated during the course of the StarTree project and afterwards in the frame of EFICEEC. The cases will be used in follow-up activities of the StarTree project, including the Innovation Generator, a central dissemination instrument of the StarTree project.

2.2 Structure of the innovation database

For the purpose of the database, the structure in form of the template was developed, which is intended to facilitate the creation of the databases itself, and for the creation of the logic for storing and adding new cases to the database. Table 1 presents the database inner structure.

Each case has to have its title, country, and brief description of its innovation aspects. Furthermore, it contains the main indicators such as: the type of innovation, type of organization and organization size related to innovation, and the relevance for market. The full description of the case should contain details of the company, innovation, chronology of innovation development, and the information related to the outcomes and brief analysis of the innovation case. Depending on the availability of information, the length of full descriptions varies between presented cases. These are to be developed and modified in the course of the project.

Table 1. Template for creation of the database (“inner logic”)

ID	<i>Numerical code that is in the database, not a sequential case number entered. Each ID refers to one database entered case, if entries are deleted then the numbers do not change for the other cases.</i>		
Title	<i>A descriptive name for the case.</i>		
Country	<i>A 2 letter code of that country.</i>		
What/Description	<i>Brief description of what the innovation case is.</i>		
Link	<i>A link to the source if a website URL, if a report the report title in and year of publication etc.</i>		
Thumbnail picture	<i>A picture for the innovation case.</i>		
Type of innovation			
Product innovation	Good	Timber	<i>Goods that are a product made of timber.</i>
		Non-timber	<i>Goods that are not principally made of timber.</i>
	Service	Ecological services	<i>Biodiversity conservation.</i>
			<i>Carbon sequestration and climate regulation.</i>
			<i>Protective services and Biosperic services</i>
		Societal services	<i>Recreational, tourism and sport services.</i>
			<i>Cultural, spiritual, historical, educational services and research.</i>
Organizational Innovation	<i>The OECD classification of innovation is followed. Our own taxonomy has wood and non-wood under the product innovation. The Millennium Ecosystem Assessment scheme for Forest Ecosystem Services and Pan-European Indicators for Sustainable Forest management (Forest Europe, FE) are largely</i>		
Marketing innovation			



Process innovation	<i>followed for the services, but named and grouped a little differently. Explanation is given in brackets.</i>		
Institutional Innovation	<i>This category is additional to the OECD categories, which are strictly related to company innovations. It comprises public organizations, policies and procedures.</i>		
Case Description			
<i>A series of paragraphs are added to the database as separate cells, these aggregate to give max. one page text of a full case description. New paragraphs may be added for new projects, or research directions.</i>			
Summary	<i>An aggregation of data from other categories in the database into form that looks like a written text (who/what/when/where).</i>		
Company	<i>Company and key person/team that was responsible, their short characterization / business field and possible their motivation for the innovation (if known).</i>		
The Innovation	<i>What is innovation about, what is innovative about it.</i>		
Chronology	<i>Origins of the innovation with starting date and location, and chronology of the innovation's development and implementation.</i>		
Outcome	<i>Current status and outcome with date.</i>		
Analysis	<i>If known, an analysis of the innovation process, e.g. by giving fostering and hindering factors, etc</i>		
Updates	<i>Updated info to be added or subsequent data or cleaning date. Future updates and reports to be added. Each new addition appended to the end of the paragraph and dated.</i>		
Additional information	<i>Any other feature of interest not previously mentioned.</i>		
Other information			
Type of Organization	<i>This says if the company is a firm, or cooperative or state sector operator like a government agency</i>		
	Public	Private	Mixed/other
Organization Size (number of staff)	<i>Indicating the size of the organization based on numbers of active persons involved.</i>		
Additional value to the market	<i>Rather than the monetary value, which is difficult to calculate, the impact in terms of innovation is recorded.</i>		
	Incremental (improvement)	New to the sector in the country	
Files	<i>Files that may be downloaded by any registered user.</i>		
Picture Files	<i>Picture for public use.</i>		
Author	<i>The person, who collected the case, wrote or updated it last and when they did this.</i>		
Entry date / date of updating information	<i>Entry date and all dates of updating</i>		

The structure of the database is used for creating a user-friendly interface, which then serves as a tool for adding, and editing the cases. As shown in the figure 2, this is a great help to the administrators of the database, when entering the cases by ticking the relevant categories and filling in information.



The screenshot shows a web-based form for adding new cases to the database. The form is organized into several sections:

- Title *:** A text input field labeled "Title of Innovation Case".
- Company:** A text input field labeled "Name of company or institution".
- Case Source *:** A text input field labeled "Please add a link to the case".
- General Description *:** A large text area labeled "Max 100 words".
- Type of Organisation:** Radio buttons for "Public", "Private", and "Mixed / Other".
- Organisation Size:** Radio buttons for "Sole trader (1-2 people)", "Small (10-50)", "Large (<250)", "Micro entity (3-10)", "Medium (50-250)", and "N/A".
- Country *:** A dropdown menu labeled "- Select an Option -".
- Thumbnail Picture:** A "Browse..." button and "No file selected." text.
- Extra Pictures:** A "Browse..." button, "No file selected." text, and red and green icons.
- Files (max 20MB per file):** A "Browse..." button, "No file selected." text, and red and green icons.
- Type of Innovation:** A section with a "Product Innovation" label and several checkboxes:
 - Timber
 - Non-Timber
 - Biodiversity conservation
 - Carbon sequestration and climate regulation
 - Protective services
 - Recreation, tourism and sports services

On the right side, there is a sidebar with navigation links:

- Forest Policy Database ↓
- Forest Innovation Database ↓
- List of Cases
- Search Cases
- Suggest a Case
- Manage Database ↓
- Add Case
- Edit Cases
- Submitted Cases
- Research Tools ↓
- ARANGE Policy Database ↓
- EFORWOOD Policy Database ↓

Below the navigation links is a "Login" box with the text "Hi, admin" and a "Logout" button.

Figure 2. Adding new cases to the database

This interface is also helpful for the users, as it gives options for easy exploring and searching of the cases through the database.

For more detailed description of the database structure please see the deliverable D 5.1, submitted in October 2013 (http://star-tree.eu/images/deliverables/WP5/D5.1_InnovationDatabase.pdf).



3 Description of innovation cases

3.1 NWFP innovation cases

At the moment, the StarTree innovation database contains 44 innovation cases related to the NWFPs. The collected cases are from the following countries: Austria (7), Belarus (1), Denmark (1), Finland (6), Germany (1), Italy (3), Latvia (4), Macedonia (1), Portugal (2), Russia (6), Scotland (4), Serbia (1), Slovenia (1), Spain (2), Wales (4). The distribution of the presented cases is shown on the map below (Figure 3).

These cases present a variety of innovation types, organizational models and relevance for the market. In the following table (Table 2) the name, country and basic description of each case related to NWFP is presented. This serves as basic introduction to the existing examples, and for more detailed information of each case the database itself should be used.

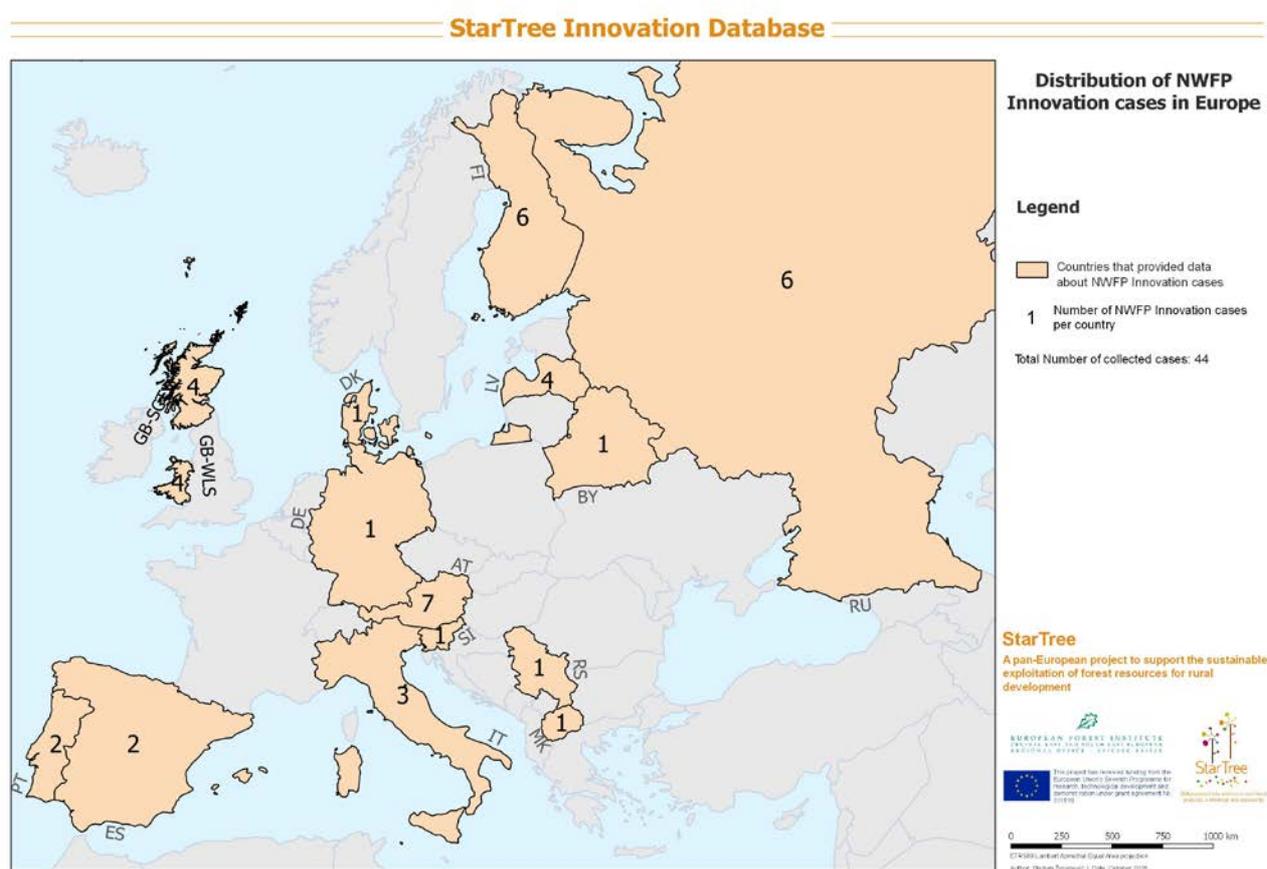


Figure 3. Distribution of the innovation cases across European countries



Table 2. Description of the cases from the innovation database

Number	Case name	Country*	General description
1	Association "Styrian Christmas tree producers"	AT	Styrian Christmas tree producers sell their trees with a common quality label guaranteeing the Styrian origin. .
2	Christmas trees to be cut by clients themselves	AT	Family farm Reisinger sells Christmas trees directly from their organic plantation and offer the possibility to their clients to select and cut their tree themselves.
3	Nature Park specialties - food products from the wild	AT	Naturparke Spezialitäten is a marketing label and a cooperation of around 20 Austrian Nature Parks which produce and market regional products from farmers situated in Austrian Nature Parks.
4	Regional label for chestnuts and walnuts - Genusregion "Mittelburgenlandische Kaesten und Nuss"	AT	A regional association and label was established for the joint marketing of the local specialty nuts products.
5	Venison marketed under the quality label "Genusregion Gesause Wild"	AT	Under the regional quality label "Genusregion Gesäuse Wild", venison is sold as raw meat as well as sausages.
6	Yobeliee Invigorating Beverage	AT	Yobeliee is a premium quality beverage, suitable as effective alternative to alcoholic beverages. It refreshes, satisfies and invigorates without the dangerous side effects of alcohol.
7	ZIRBENLAND - "Region of the mountain pine"	AT	The LEADER-Region ZIRBENLAND has built up many solid cooperations around all kind of products from the Austrian Stone Pine (<i>Pinus cembra L.</i>).
8	Private tree burl collection	BLR	A unique family collection of tree burls offered for visitors.
9	Nordic Food Lab - foraging adventure in the fjords	DK	Lars Eriksen embarks on a food foraging adventure in the fjords of Denmark with the Nordic Food Lab; a culinary laboratory established by the head chef of Noma, the top-rated restaurant in the world. The forged food includes wild harvest from the forest and wood.
10	Berry wine	FI	Hermannin Viinitila is the oldest winery in Finland, founded in 1989. Hermannin Viinitila is consisting of winery, wine shop and Winetower. Located in Illomantsi the Hermannin Winery produce high quality sparkling wines, wines, liqueurs and spirits made from natural and aromatic Finish berries.
11	Birch sap Juice	FI	The birch sap juice idea was born as results of entrepreneur willingness to utilize birch forest without implementing traditional forestry practices (cutting). The owners collect information about production of birch sap and realized that birch sap is been using a lot in Finland in the country side and it is healthy natural product. The final decision was to utilize the birch forest for making birch sap juice that will be natural as possible without containing any food additives or preservatives.



Number	Case name	Country*	General description
12	Business gifts, freelance journalist and other services	FI	Developing a business dealing with business gifts, freelance journalist and other services started in 2012. The owner wanted to work in the forestry sector within the North Karelia region. His previous occupation on forestry and tourism sectors give him a lot of knowledge and very well established network. The network became very crucial for carrying out the business activities.
13	Finish berries	FI	Mantsin Makie is producing fruit juices with brand name. Brand Ruooka omasta maasta means that berries juice is made from Finish berries which have long tradition in Finish cuisine. The brand is very well known by Finish customers.
14	Parkuri cultivation	FI	Development of new methods for Parkuri cultivation offers prominent way to use low yielding forests for Parkuri production.
15	The Arctic Flavours Association - Arktiset Aromit ry	FI	A nation-wide natural products industry association specialising in wild berries, mushrooms, herbs and special natural products. The aims of the Association are to promote the gathering, processing and use of natural products as well as to improve their quality.
16	Directly Marketing wild venison within Forest Management Unit (FMU)	DE	Direct marketing wild venison within FMU Schildfeld started in 2002. Good wildlife management secures the forest under FMU Shildfield management to have high availability of game. FMU Shildfield is part of the state forest administration Landesforst MV. Landesforst MV had encouraging their employees to propose new ideas, concept that will help in diversification of the income, and business areas. In one of these initiatives the employees of FMU Shildfield had propose the company to introduce direct marketing wild venison.
17	Chestnut liquor	IT	The Association Tutela Marroni di Castione was established in 1994. The idea for establishing Association was to recover the natural heritage characterized by chestnut cultivation. The most innovative activities of the Association Tutela Marroni di Castione are a) The gastronomic competition: "Wine and chestnuts- excellent combination"; b) National Festival of Arts Graphic Humour "The smile of chestnut"; and c) "Marroncino di Castione" – chestnut liquor.
18	Fungo di Borgotaro PGI	IT	The mushrooms of the Borgotaro region are an EU protected label since 1996 (Protected Geographical Indication PGI). The PGI "Fungo di Borgotaro" is part of an eno-gastronomic route of the province of Emilia Romagna a tool for the promotion of tourism.
19	Extraction larch resin	IT	Extraction of the resin of larch is an ancient activity. In 1952 extraction of resin of larch has been banned by the Provincial authority of Trentino, in 1999 the owner of Monclassico became responsible for rediscovering this activity. The whole process of larch extraction of the resin was transferred, learned from owner father in law.
20	Basketary manufacturers	LV	PinumuPasaule Ltd is one of the largest Latvian basketry manufacturers. It offers a wide range of shapes and sizes of basketry, and other wicker products.
21	Boar bristle brushes	LV	WildGood is company specializes in manufacturing boar bristle brushes marketing them as a natural and ecological product of Latvia



Number	Case name	Country*	General description
22	Extracts from tree foliage and other plant biomass	LV	JSC "Biolat" extracts biologically active photochemical from tree foliage and other plant biomass for use in the food industry, pharmacy, cosmetics, plant fertilizer etc. It also manufactures a range of products based on these extractives.
23	Sparkling Birch Sap	LV	Sparkling Birch Sap is sparkling low-alcoholic beverage. Sparkling Birch Sap is produced by a family company „Dabas Dobe“. The juice is prepared according to old family techniques and topped with a refreshing mint leaf.
24	Exporter of forest fruits expands to domestic market	MK	InterMak is one of the biggest Macedonian exporters of NWFPs, offering wide range of products (mushrooms, berries, junipers, blackberries, blueberries) in different ways of processing (dry, frozen, fresh and marinated). Compared to the other exporters InterMak is the first company offering wild mushrooms also on the domestic markets.
25	Helix - Screweable Cork Cap	PT	The helix is a cork cap with a differential design with the possibility of unscrewing and screwing back the cap.
26	Wine hotel	PT	The Quinta de Nossa Senhora do Carmo is the first wine hotel in Portugal, receiving numerous awards. The hotel is part of Amorim Gorup multinational company the biggest in cork industry. The idea has arisen from the passion for quality natural products, so in 2005 the new dimension was presented in opening the wine hotel Quinta de Nossa Senhora do Carmo in 2015. The hotel is located in wine regions with long tradition.
27	Anti-cancer medicine	RU	Development of technology for production of anti-cancer medicine on the basis of Inonotus obliquus
28	Birch Bark Shoe Insole	RU	A shoe insole made of birch bark, eco-cardboard and glue.
29	Doctor Berest Pillow	RU	Production of pillow made from shredded birch bark.
30	Kedra Chewing Gum	RU	Chewing gum produced from larch sap and Siberian pine resin.
31	Production of oil sorbent from peat	RU	Development of technology for production of eco-friendly peat sorbent for oil-spill clean-ups
32	Vologda Berry Factory	RU	Introduction of freezing, cleaning and processing berries, mushrooms and vegetables within a single large-scale factory.
33	Birch one day craft courses	SCT (GB)	West Moss-side Centre offers one day birch courses. The materials for the workshop can be harvested from the mature birch woodland. The course attendant will learn new techniques of weaving and using birch bark, twigs and roots and also they will learn to create interesting, funny and useful things.
34	Fruit wine production or Oak leaf wine	SCT (GB)	Cairn O'Mohr wines is a country fruit wine business that currently produces 15 different sorts, including an oak leaf wine. Nowadays it is unusual to find a successful fruit wine business in Scotland.
35	Scottish Wild Harvesting Association	SCT (GB)	Scottish Wild Harvesting Association fosters knowledge sharing, education, co-operation marketing and promotion of Sustainable gathering.
36	Spruce Beer	SCT (GB)	Forestry Purposes LLP is family-owned business which is focusing on all possible uses of Scottish spruce. Beside all traditional forest utilization services, Forestry Purposes LLP produce spruce beer. The Spruce beer is soft drink produce according to own secret recipe.



Number	Case name	Country*	General description
37	Wooden knots for climbing walls	SI	Production of wooden knots as holds for climbing walls as micro business (“sole-trader”) started in 2012. The wooden knots for climbing walls are produced from locally available resources from the forest around the company. The product is linked to “healthy way of living” because is part of sport activities. The wooden knots as holds for climbing walls are patented on national level.
38	Teaspoon shaped bags	RS	The Adonis is family business engaged in collection, processing and marketing of herbs. Adonis produces different kinds of teas with the special emphasis given to Teasy™. Teasy™ is tea, packed in “teaspoon-shaped bags”, instead in traditional tea-bags. At the begging the emphasis was put on Teasy™ cranberry tea because of the successful sale of this flavor, which began in 2005. In 2012, they made complete re-design of packages in order to achieve a contemporary look, by combining traditional forms and symbols. Teasy is protected as trademark.
39	Gourmet mushroom cooperative	ES	The lack of employment in rural areas influence group of 5 women to start the business. They established the Del Monte de Tabuyo gourmet mushroom cooperative. One part of the cooperative is dealing with commercializing the mushrooms as primary product and to give legal fund to this resource as one and second part of the cooperative is focusing on the restaurant and the commercialization of the products that are manufactured and packaged by the 5 members.
40	Hotel and restaurant with mushroom tourism activities	ES	In 2011 as part of the SylvaMed Project the forest landowner launched a pioneer and pilot experience of a private mushroom harvesting regulation embedded with mycotourism and traditional tourism services (hotel and restaurant). The mushroom harvesting regulation in a private-owned forestland was established with the support of Forest Science Center of Catalonia (CTFC). The owner charge fee for a daily ticket allowing the pickers to collect mushrooms. The forest landowner has a hotel and restaurant and can combine traditional tourism services with mycotoursim and mycological forest management.
41	Coppicewood College	WLS (GB)	Coopicewood College promotes, supports sustainable woodland management and runs courses using traditional methods and tools. The courses cover all aspects of coppice practice, hedge-laying and coppice craft in the woodland in Cilgerran, Pembrokeshire, (West) Wales. Coppicewood College provides training in woodland based traditional rural skills and related crafts.
42	Exclusively hand plucked domestic herbs	WLS (GB)	Fine Pluck is a small-scale company situated in countryside of Powys County in Middle Wales, which deals with tea production. The herbs for tea producing are mainly picked in Cambrian mountain farm in Wales but also come from the area close to the farm. Another innovative product is a poster ‘Free teas’ showing 42 herbs that are growing in Wales and can be plucked for tea. The herbs are plucked exclusively by hand (manually) and this is difference between Fine Pluck and other tea producers in UK which are using mechanization for plants harvesting.
43	Wild pickings with foraging walks and courses	WLS (GB)	Wild Pickings is a micro rural business run by the professional forager. The forager picks local wild products from the woods and hedgerows surrounding her home in Mid Wales. The collected products are used for production of high quality pickles, preserves and cordials. The business model combines the manufacturing and sale of wild pickings



Number	Case name	Country*	General description
			with foraging walks and courses, cookery and demonstrations and small scale catering for events.
44	Willow courses	WLS (GB)	Out to Learn Willow is a micro company that provides a wide range of workshops and willow courses such as making traditional crafts from willow, weaving and also planting living willow structures. The main activity of Out to Learn Willow is teaching willow weaving. They also produce traditional baskets and other willow crafts which can be specially ordered and this is the function of their bespoke project part. The main innovative products are willow sculptures of animals, which require special skills and creativity.

*AT-Austria; BLR – Belorussia; DK – Denmark, FI – Finland; DE – Germany; - IT – Italy; LV – Latvia; MK- FYR Macedonia, PT – Portugal; RU – Russia; SCT(GB) – Scotland; SI - Slovenia; RS - Serbia; ES – Spain; WLS(GB) - Wales



4 Analysis of cases

4.1 Innovation types

For the purpose of the deliverable D5.5, the collected cases were analysed around the main parameters included in the innovation database, with the aim to show patterns and the most relevant aspects of the innovations. For the analysis we used 44 cases, and applied basic descriptive statistic (using Excel programme). This insights into the cases will help in getting an overview of innovation characteristics, and will show the variety of existing cases, organisational forms and relevance of analysed innovation cases for the market.

The database follows the OECD² classification of innovation types³, which differentiates between the following types: organizational, product, process and marketing innovations. According to previous research on innovation in the forestry sector, another innovation type was added in the database: institutional innovation (Rametsteiner et al. 2010)⁴. The results from the StarTree database (Figure 4) show that a majority (25) of companies are focused on marketing innovation (cases such as 1, 3, 12, 13, 16, 24, 38, 40 etc.). Most of the marketing innovation can be illustrated by joint marketing (cases 1, 3), branding/labelling (cases 13, 16, 40), changing the design (case 38), new method of delivery (cases 12, 24) etc. The lesser number of innovations belong to the new product types or 24 cases (cases 8, 9, 17, 20, 21, 23, 28, 29, 30, 36 etc.). These new products can be further analyzed as products for consumption (food) like liquors (case 17), wines, beers (case 36), chewing gums (case 21), juices (case 23), pates or forged food (case 9) or as non-food like brushes (case 21), shoe insole (case 28), burl (case 8), birch bark pillow (case 29), new shapes designs of baskets (case 20). A minor part of the innovations are related to processes (8), which can be illustrated by the cases (14,19,27,31,42), renewed traditional activities (case 19), developing new methods of processing (cases 14,27,31) or new methods for collection of raw materials (case 42). The research identifies 5 new organisational forms of innovation, these innovations basically relate to establishing association (case 17) or increasing product's portfolio (cases 22,33). The Scottish Wild Harvesting Association (case 27) is the only example of an institutional innovation. In many cases it was noticed that some innovation types occur together. With the introduction of a new product (cases such as 9, 23, 36 etc.) the companies often introduce also new (specific) marketing methods (delivery of the product).

² Organisation for Economic Co-operation and Development

³ <http://www.oecd.org/site/innovationstrategy/defininginnovation.htm>

⁴ Rametsteiner, E., Bauer, Weiss, G. (2010): Policy Integration and Coordination: Theoretical, Methodical and Conceptual Approach. In: Rametsteiner, E., Weiss, G., Ollonqvist, P. & Sleen, B., Policy Integration and Coordination: the Case of Innovation and the Forest Sector in Europe, 15 p; OPOCE, Brussels



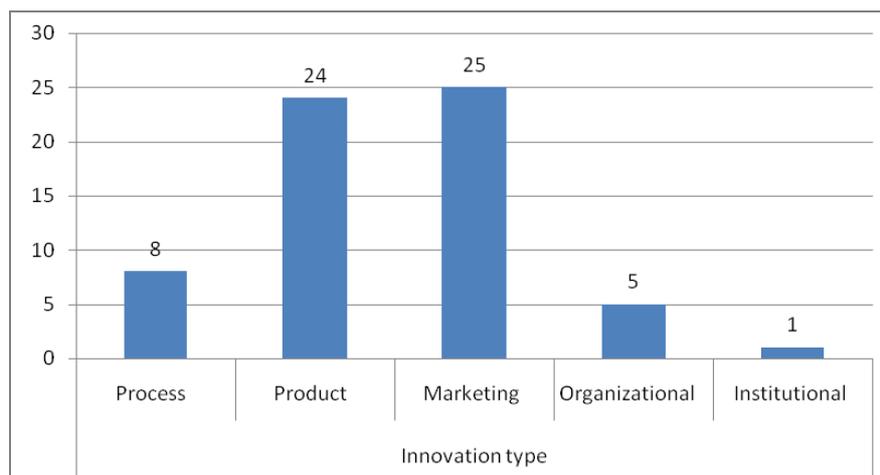


Figure 4: Innovation types

4.2 Company size

Looking at the size of the organisation that initiated the innovation, it can be seen that micro, small and sole traders represent 2/3 of the innovative companies in this collection of cases (Figure 5). From the case descriptions, as well from the information gathered during the regional stakeholders meetings it is seen that most of these innovative companies are located in rural areas. Large organisations (having more than 250 employees) are found just in 9 cases, and these are mostly private companies (cases 15, 25, 26, 27, 32), state large companies are cases 14,18, and large with other/mixed types are cases 3 and 7.

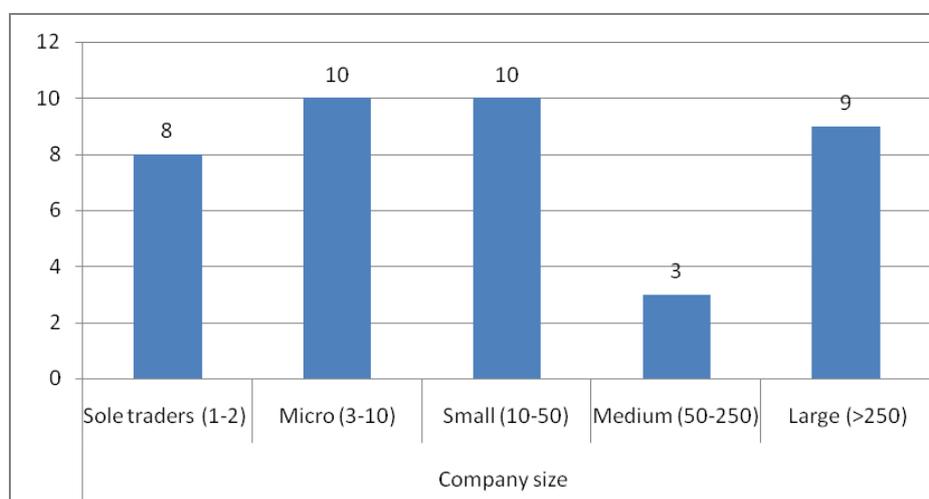


Figure 5: Company size ⁵

⁵ Lack of data is reason why 4 companies missing in company size analysis

4.3 Novelty

One of the indicators for the innovativeness of a certain product or process is based on its relevance and additional value that it brings to the market (novelty). In this way it is possible to distinguish between: incremental and new to the sector (radical) innovations. Incremental innovation concerns an existing product, service, process, organization, or method whose performance has been significantly enhanced or upgraded, while new to the sector (or radical) innovation is innovation that has significant impact on a market and on the economic activity of firms in that market. In practice incremental innovation is the dominant form of innovation which is not a case with our examples. As it can be seen in the figure 6, 70% of the analysed cases of the innovations are New to the sector. Such more radical innovations are considered as a fostering factor for starting new businesses.

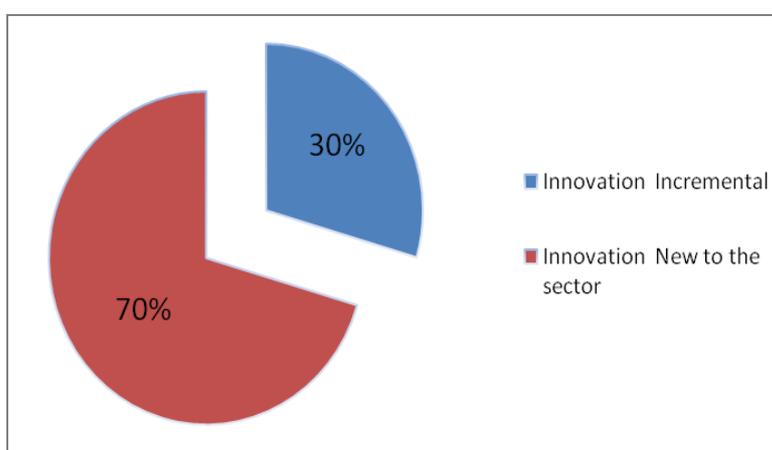


Figure 6: Novelty: value to the market

4.4 Use of the innovative products

Figure 7 presents the potential which NWFPs and in general forests have. Even though, the NWFPs are mostly seen as edible products (berries, mushrooms, chestnuts, walnuts and product produced from them like wines, beers, pate, juices and liqueurs), the cases in this database (19) shows that they can be as well used in the households (e.g. as a helpful natural aids like brushes, basketry, willow products), in business (e.g. as gifts), in industry (e.g. as chemicals and pharmaceuticals), and for knowledge creation and entertainment (e.g. trainings, courses, extraction) (Figure 8). The diversity of cases and innovation aspects can contribute for new fields of innovation in NWFP sector, and also can show how much forestry in general can benefit from products other than wood.



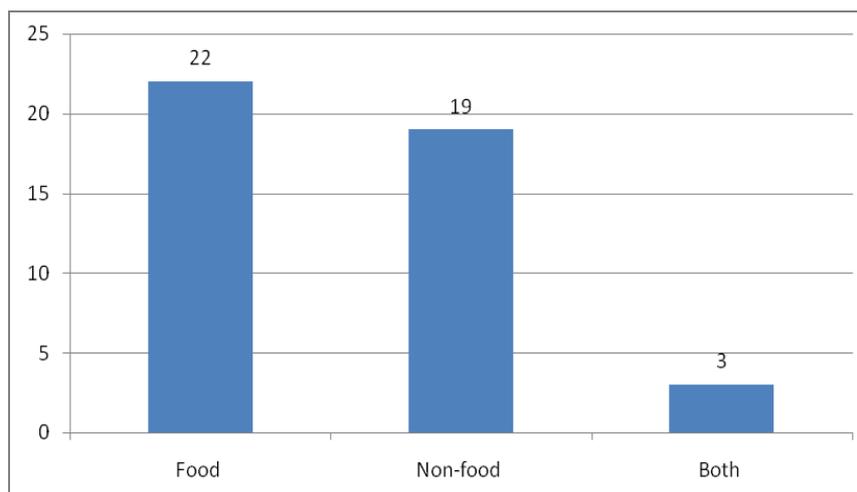


Figure 7: Innovation segments

According to the data, the innovative products are mostly used for home consumption (9), as gifts (3), or in both ways (15). This also indicates the trend of using natural products, produced in sustainable and close-to-nature way.

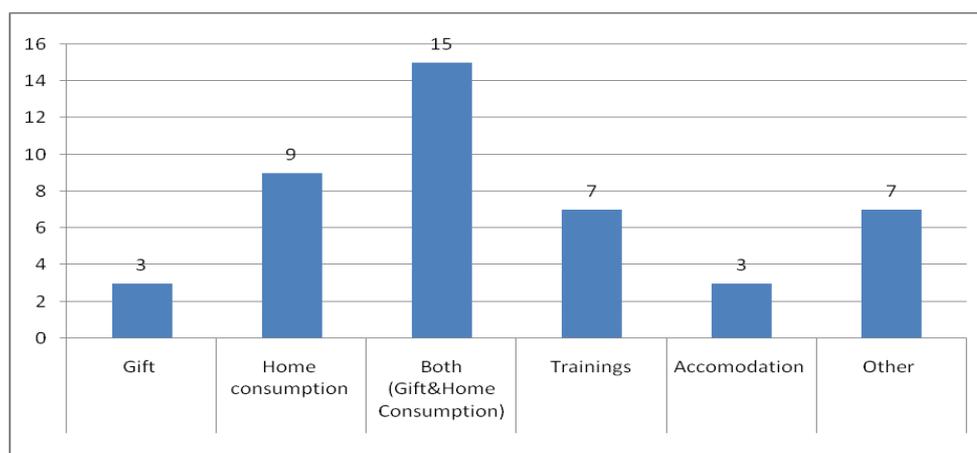


Figure 8: Usage of innovative products

5 Conclusions

This Deliverable D 5.5 presents the database of innovative cases in NWFP sector in the frame of the StarTree project. The research was devoted to a collection of innovative examples from the production and marketing of NWFP in Europe. In this process various methods of data collection were used, with a strong involvement of all project partners. By collecting a variety of cases, the innovation database contributes to the aims of the StarTree project, which is identifying and showing the diversity of innovation types related to NWFPs as well showing the diversity of products and the regional importance of those innovations. The design of the StarTree project around Case Study Regions (CSR) helped in mapping and showing the variety of possible cases ranking from North to South and from West to East. This collection of cases does not provide a picture that can be generalised to European level, but it showed regional and national specificities which nicely illustrate in how far and in which way NWFP are used and how much they represent potentials for future business, in both rural and urban settings. However, based on the presented 44 innovative cases, some patterns and conclusions can certainly be drafted.

The micro and small companies appear as most relevant – according to the results more than 2/3 of the innovation examples are introduced on the market by sole traders, micro and small companies. It is seen that such companies succeed to provide adequate products and services that respond to users' most specific needs and interests, thus filling niche markets. The majority of the collected innovation cases are new to the sector (70%), which indicates that a high potential exists for such new businesses. Marketing innovations are the most frequent innovation type. Innovation are mostly done in the sphere of food and beverages (wines, beers, liqueurs, chestnuts pate, jams), but there are also innovations in other areas, such as providing trainings, running the NWFP-specialized restaurants and hotels, using chemical and pharmaceuticals gained from NWFPs in industry, and organizing many outdoor activities and entertainment around NWFPs. This wide scope of fields is remarkable and means on the one hand a great potential and opportunities for activities of forest holdings, on the other hand it is an important challenge as they need expertise from quite different knowledge fields as well as network connections in various different sectors.

Today, we can observe societal trends towards preserving traditions and using natural or wild products, or giving high value to such products by urban populations. Theses modern lifestyles re-appreciate natural products and influence the use of forest products - cases from the database show that around 2/3 of the products are used/bought for gifts or home consumption. These products are characterised by their close-to-nature and sustainable way of production, which seems to play a big role in their usage nowadays. In many cases the interviewed innovators state that the concept of sustainability or the balance with nature represent a priority in their businesses. Products are often in a high-price segment such as health or organic products. It can be further seen that many of the innovation cases from the database combine services (e.g. education, adventure etc.) with non-wood forest products (e.g. mushrooms, berries, herbs, etc.). These businesses are often cross-sectoral (between tourism, rural development, nature conservation, food and forest sector), and not always initiated actually by the forest sector but also non-sector entrepreneurs (which shows new opportunities that exist also for forest sector actors). In the larger rural development



picture the importance of such businesses is significant as they foster regional distinction, livelihood and development.

5.1 Next steps

The work on the StarTree innovation database will be continued until the end of the project itself. It is planned that the database is permanently updated with new cases, which means that the work on the collection of the cases will be continued, during StarTree but also beyond (EFICEEC).

Within StarTree, the database will serve as an element of the Innovation Generator, which will be an important dissemination instrument on “innovation” (WP5) to policy and practice users and the broader public and will bring together the “innovation case database” (D 5.5) and the “innovation support materials” (task 5.6) on a specific sub-website of StarTree.

