Inspiring4Biodiversity

Biodiversity in Business – biodiversity oriented business premises

Erasmus+

Introduction:

Presentation slides (with PowerPoint or similar programs) is an effective tool to present material, to encourage and inspire people by using spoken language and visual text and pictures.

This is a supporting document for the ready-made PowerPoint presentation about biodiversity-oriented business premises. The Presentation contains basic ideas, background information and multiple photos of best-practice example.

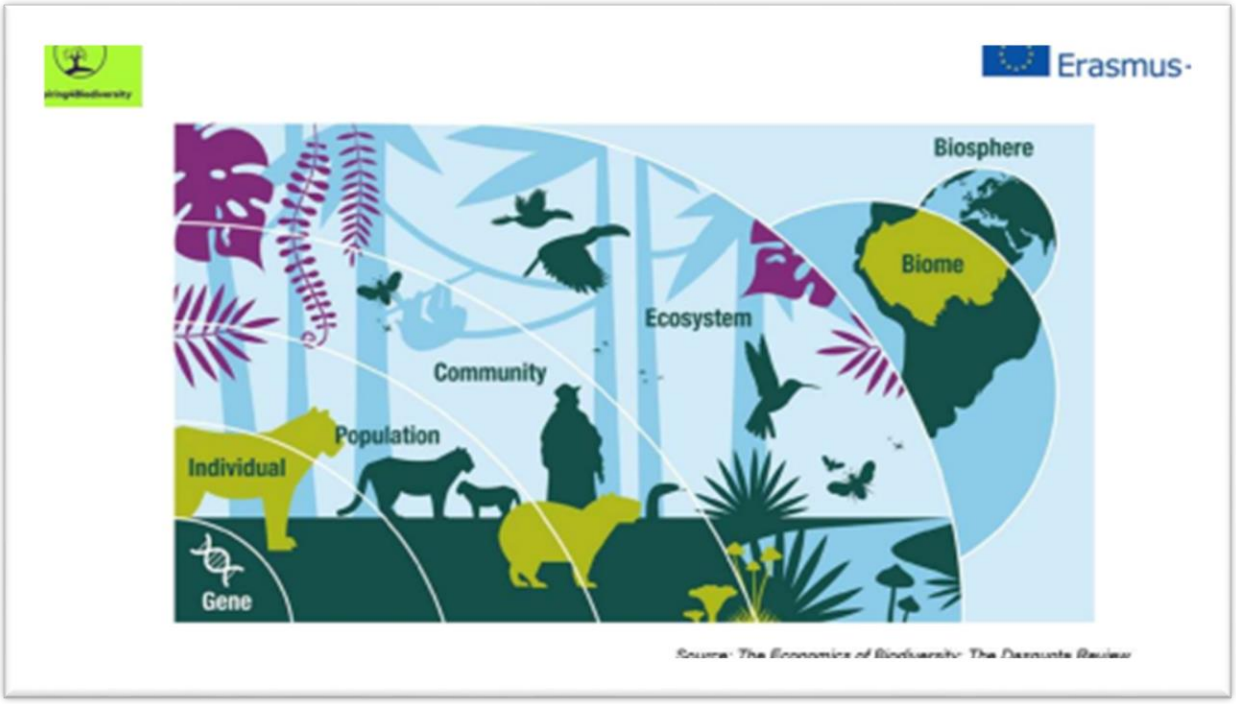
This document is supplementary to the PowerPoint presentation and provides basic information on the slides as well as several recommendations and notes on its adjustment according to actual needs. This document can be used in order to give the presentation. The presentation itself is editable, so you can customize it to your needs.

Slide 2

We recommended to stress out at the very beginning the basic idea of the concept – biodiversity in the premises is supported in a way that is not in contradiction with its primary purpose and function – the economic activity.

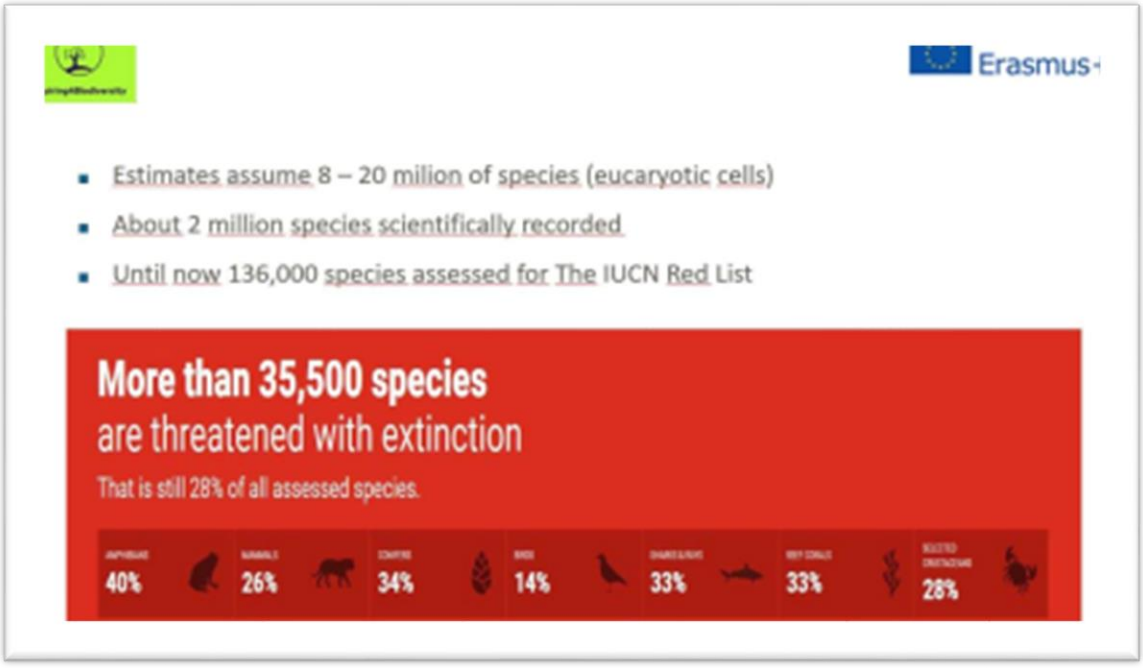
The business premises, if managed well, can become multifunctional – they can serve not only for economic purposes, but also provide more suitable environment for various plants, animals and of course humans.

Slide 4



Brief introduction to the term BIODIVERSITY. The word stands for diversity of life. There are various level behind, as the picture describes. We speak about genetic diversity of organism, species, ecosystems… and the whole life on the Earth we call biosphere. Anyway, the most often we speak about diversity of species

Slide 5



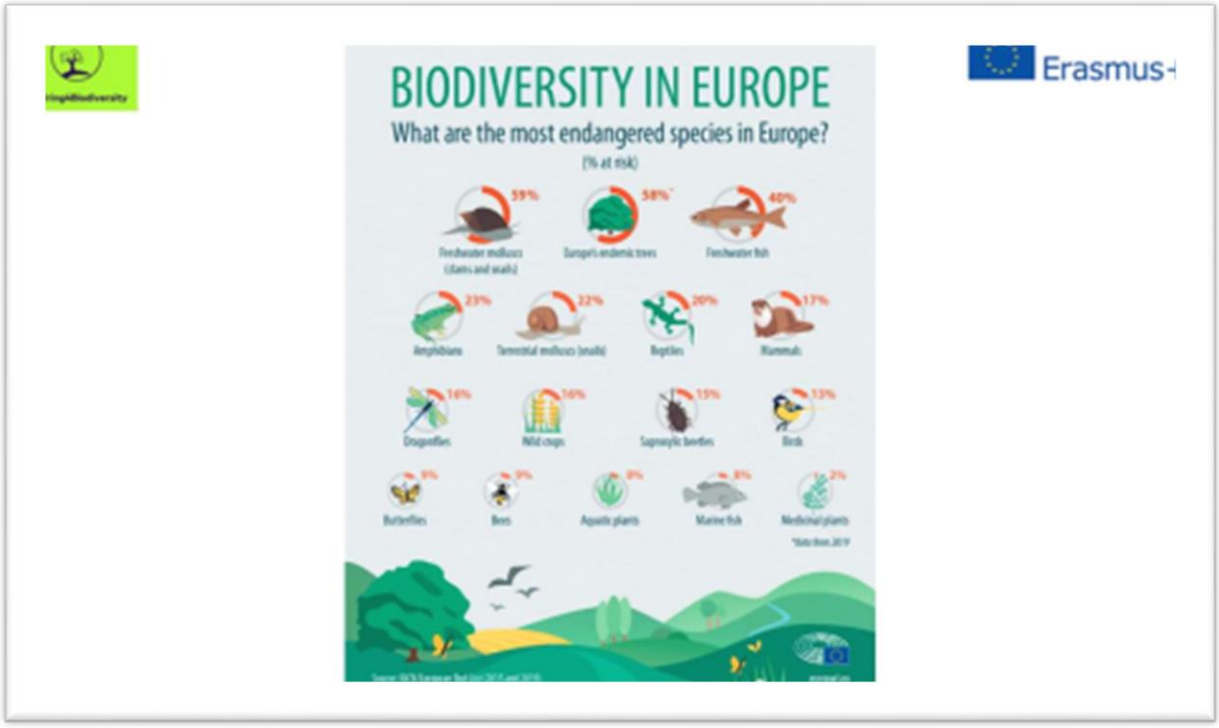
How many species is there on the Earth? The answer is interesting – we don't know. Conservative estimates say there is 5 – 15 million species of organisms with eukaryotic cells (other than viruses and bacteria), but there might be many more.

So far, only 2 million of them were scientifically recorded.

Out of them 142,500 were assessed by the IUCN (International Union for Conservation of Nature). IUCN states that 40 thousand species are threatened by extinction. The most threatened group is amphibians – they are very sensitive to the loss of habitats and generally to its quality.

Note: the IUCN data need to be updated as they change over time.

Slide 6



We can speak also about the situation in Europe based on the IUCN data. It is obvious that in the European region, that several groups of animals living in freshwater ecosystems are threatened.

Note: The infographic is from 2019 and should be updated in the course of a few years.

Slide 7

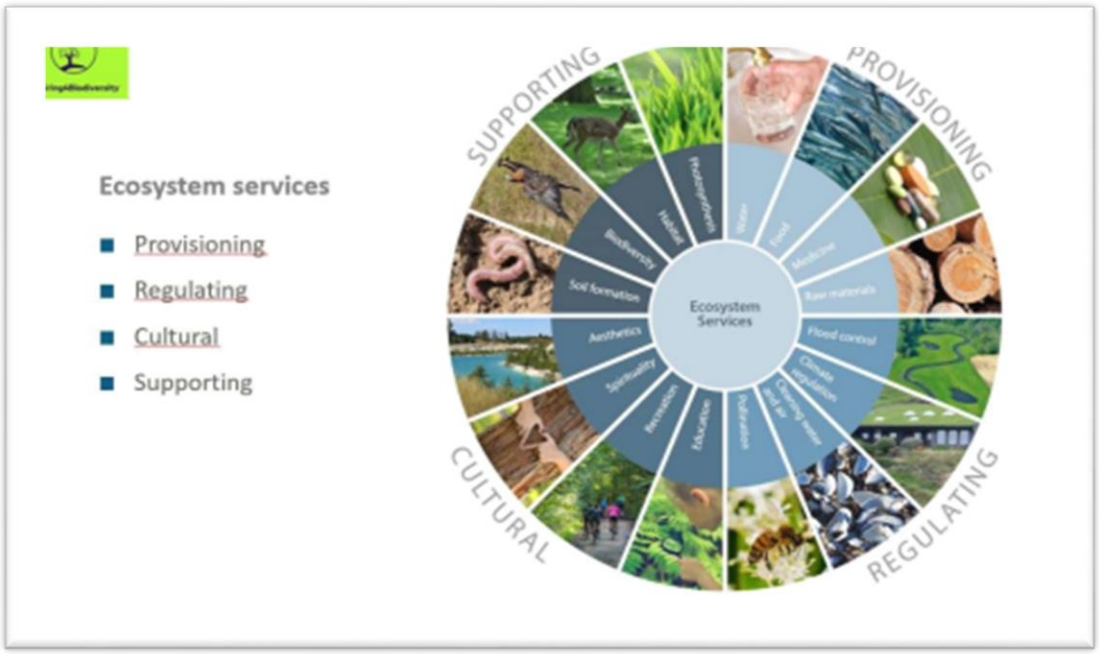
There are identified several main reasons why we are loosing biodiversity. Of course, these reasons are not isolated and they reinforce each other.

The pictures illustrate the reasons and and some can be used to comment several factors, for example:

- intensive wood extraction illustrates loss of biotopes and overuse of resources - industrial chimneys illustrate greenhouse gases release but also pollution of the air by can be mentioned

Invasive species are represented by goldenrod native in North America, but very invasive in Europe. There are two similar species: Canadian goldenrod (Solidago canadensis) and the giant goldenrod (Solidago gigantea)

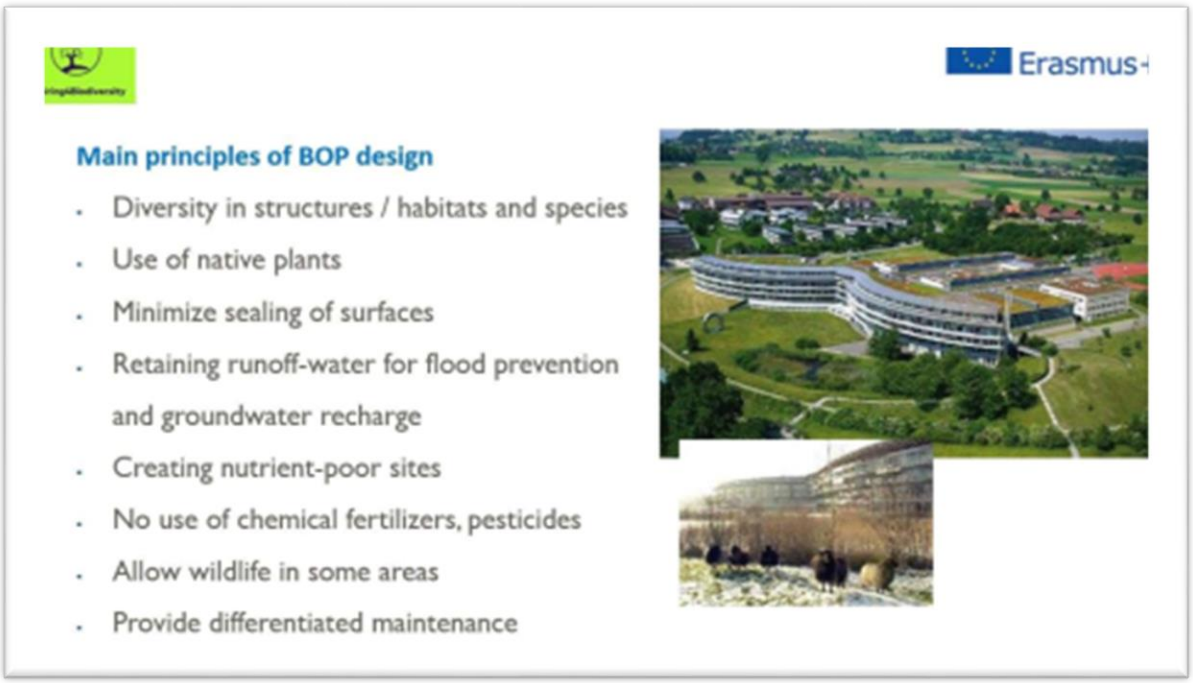
Slide 8



Biodiversity loss is not just loosing whales or wild bees, i.e. the species diversity. Biodiversity as a whole provides us numerous ecosystem services.

Note: It is recommended to pick just a few examples of services to keep it short – may be one or two from the 4 main groups.

Slide 10



In order to support biodiversity in a given area or premises, there are several principles related to biodiversity friendly design. The more we implement in real life, the bigger effect will be. Of course, in real situation there is often possible to select

just several of them. Brief reasoning why these principles are tied with enhancing biodiversity:

Diversity of structures / habitats and species

Diversity of natural structures in a given area creates diverse environment which can serve as a home for more plant and animal species. For example, a meadow with a few shrubs, stone wall, bed of flowers and other similar features will provide home for many more species than just an often mowed lawn.

Use of native plants

Native plants are much more related to other native plant and animal species than non-native. For example, very often just a very few native insect species can use non-native trees, such as the sycamore tree. On the other hand, oaks, maples or rowans support several tens or even more insect species.

Minimise sealing of surfaces

This principle relater to water seepage and groundwater recharge. When building or parking lots or pedestrian walkways, water permeable pavement surfaces, such as pervious concrete, porous asphalt, permeable interlocking concrete pavers, concrete grids etc can be used.

Retaining runoff-water for flood prevention

Water from the roofs and other impervious surfaces can be retained in various structures, such as man-made ponds, rain gardens, swales etc. These structures can significantly increase also biodiversity by simply providing a new type of habitat for water and wetland plant and animal species.

Creating nutrient-poor sites

The most common management of meadows does not support biodiversity very much, it usually goes against it, in fact. If we want to promote various flowering plant species, we should avoid fertilisers and remove cut plants from the area. A very common practice, mulching, will support just a few grass species that will thrive under the circumstances and supress most other plants that could grow there.

No use of chemical fertilizers, pesticides

Fertilisers were mentioned also in the previous part and it involved also natural fertiliser. By this principle we simply mean avoidance of any artificial chemicals to manage the surfaces. Pesticides are substance poisonous not only for target plants or animals, but also for us, humans.

Allow wildlife in some areas

If there is a spot or area in your premises where you can allow nature just to go with the flow, it can be a step forward. Of course, it is advisable to step in and manage

some particular plant species if the situation was not tolerable and this spot is not a nature reserve.

Provide differentiated maintenance

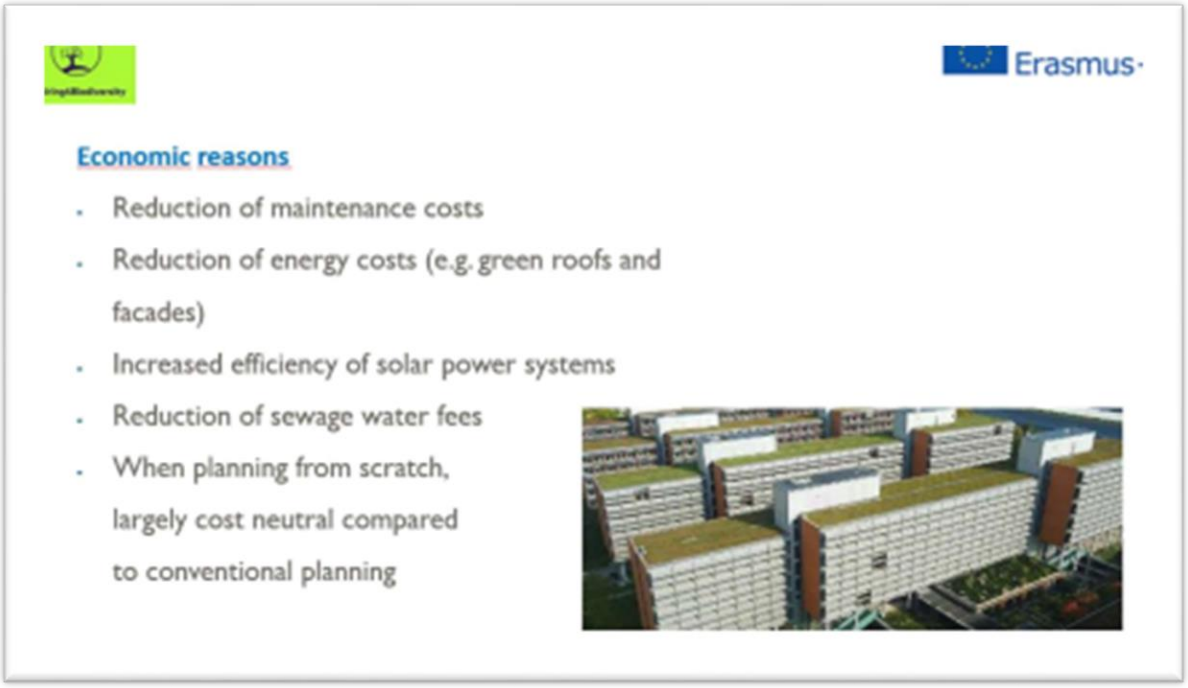
One simple example: if we mow a meadow, it is advisable to avoid mowing the whole area at once. Small creatures, such as grasshoppers, can simply move to unmoved areas and survive there. Also, like this we allow more flowering plants to spread their seeds.

Slide 11

This is an opportunity to sum-up how we can contribute to protection of nature and biodiversity.

- we are providing home for many plant and animal species;
- green premises can serve as stepping stones and contribute to ecological connectivity of the landscape;
- ecostystem services of the green infrastructure can be enhanced, e.g. water retention and improving the micro-climate;
- biodiversity oriented premises also provide good opportunity to communicate the topic of nature protection, biodiversity etc. to people and sometimes also to the media.

Slide 12



It is usually interesting if there are also economic benefits – and we can discuss them also in relation to BOP concept.

Very important advice is to always communicate economic benefits as collateral (although wanted) advantage. If they become the central motivation, it can often lead to shifting the original purpose of supporting biodiversity to the situation where it becomes a minor and secondary motive.

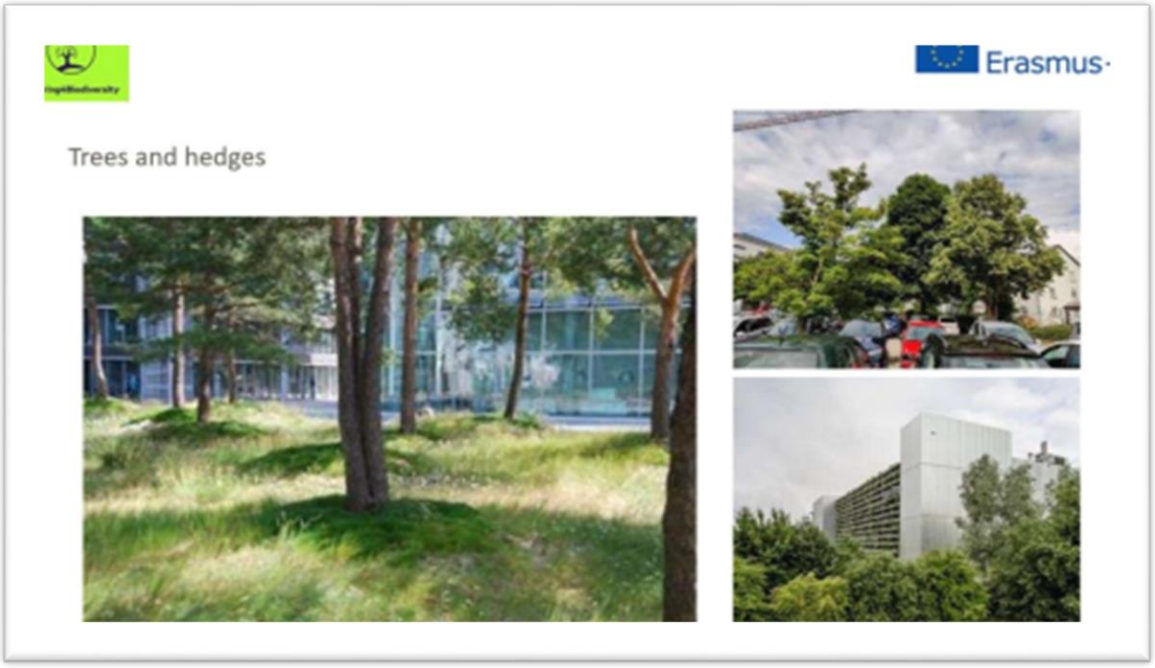
Slide 13

The motivation for BOP concept can be further supported by relationship to other areas, such as social, for example in building relationships with employees, business partners, NGOs, schools etc. It is also a good opportunity to create content for communication with the media.

Biodiversity-oriented design features

The following slides 15 – 20 explain the main individual features and areas used to support biodiversity in semi-natural environment, for example in human settlements, business premises etc.

Slide 15



Trees and shrubs are naturally an expected feature of the BOP concept. We can achieve a lot by well-planned planting trees: increase the aesthetics of the spaces, improve the micro-climate, create noise and visual barriers, retain more rainwater, improve the quality of the air we breath and many other things. And of course – support other especially animal species.

Note: this is a good place to remind again the importance of the original tree species and to also mention the need for adaptation to climate change, including the uncertainty it brings with regard to the choice of tree species.

Slide 16

At least two different examples how water can be retained and seep into the ground. The picture on the left is an example of water pervious concrete pavements combined with zones with ornamental vegetation.

Picture on the right shows a situation where water stays on the surface in the form of a constructed pond.

Slide 17

Green roofs bring many benefits – they can work as an insulation as well as water retention measure. Intensive green roofs, if they are accessible, can be used also for further purposes – as gardens, resting places, business meetings, for recreation etc.

Picture on the right / bottom – although surprising also rare and sensitive plants can grow on a roof, such as orchids in this case.

Slide 18

In line with the principle of creating diversity of structures, we can use also various materials, such as stones, dead wood, gravel, sand etc. These will provide microhabitats for various small creatures, such as lizards, beetles, bees, spiders and so on.

If the spots with these materials are well visible, it can be designed in a way it is interesting also for humans – the work with the materials can be very creative.

Slide 19

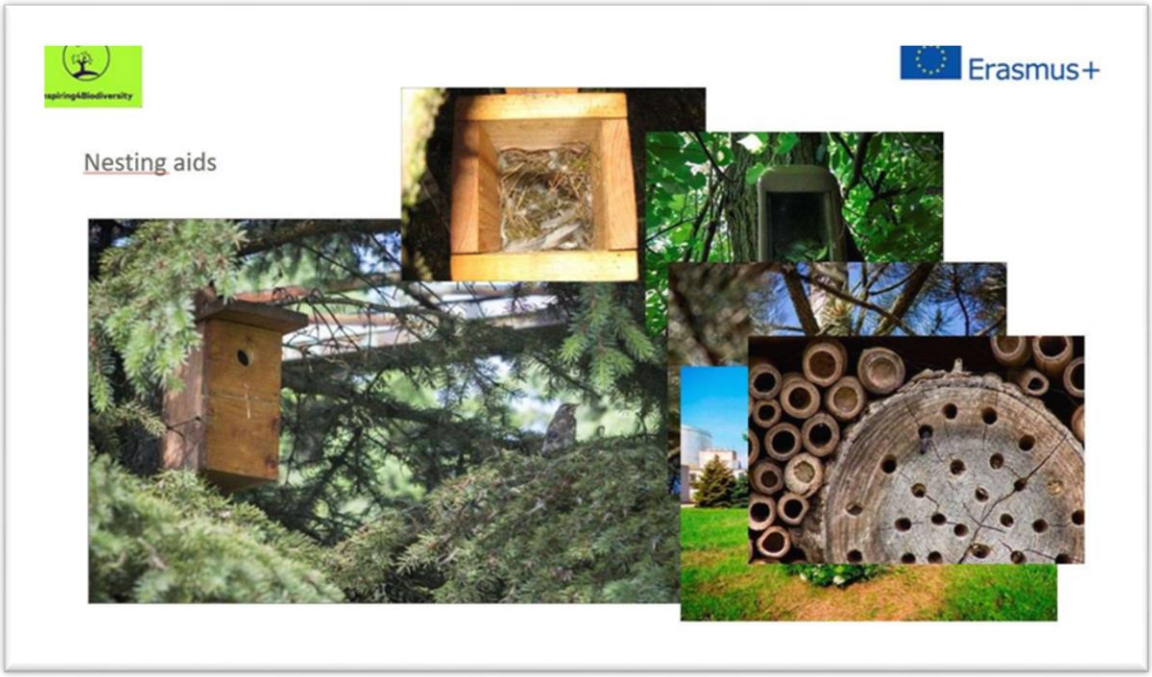
Natural and flowering meadows, especially those of a high natural value, became a rare thing – both in and around settlements but also in the open countryside. We are losing not only the diversity of meadow plant species, but also insect species.

Fortunately, at least some municipalities and businesses are nowadays letting the meadows grow more naturally, or create new ones. It is not an easy job – to create a new meadow is a very demanding (and often also not very sustainable) practice, and improving the meadow ecosystem just by suitable care can take lead to solid results in 10 or even more years.

Anyway, there are many reasons to continue in this trend. Natural meadows are better than short lawn during hot summer days, as it doesn´t overheat that much. They are better also for water retention. They can look colourful and interesting. And already mention – insects need them. Last but not least, their maintenance is also economic in comparison with turfs.

Of course, there is controversy too – what about allergies, ticks, litter etc.? Good strategy is combination of both, to have areas with natural meadows and turfs in a given locality – according to how they are going to be used by people.

Slide 20



Nesting aids are all small things that serve small creatures for nesting. The choice is quite broad – from bird boxes, houses for hedgehogs, dormouses, wild bees, to bat boxes (serving for roosting) etc.

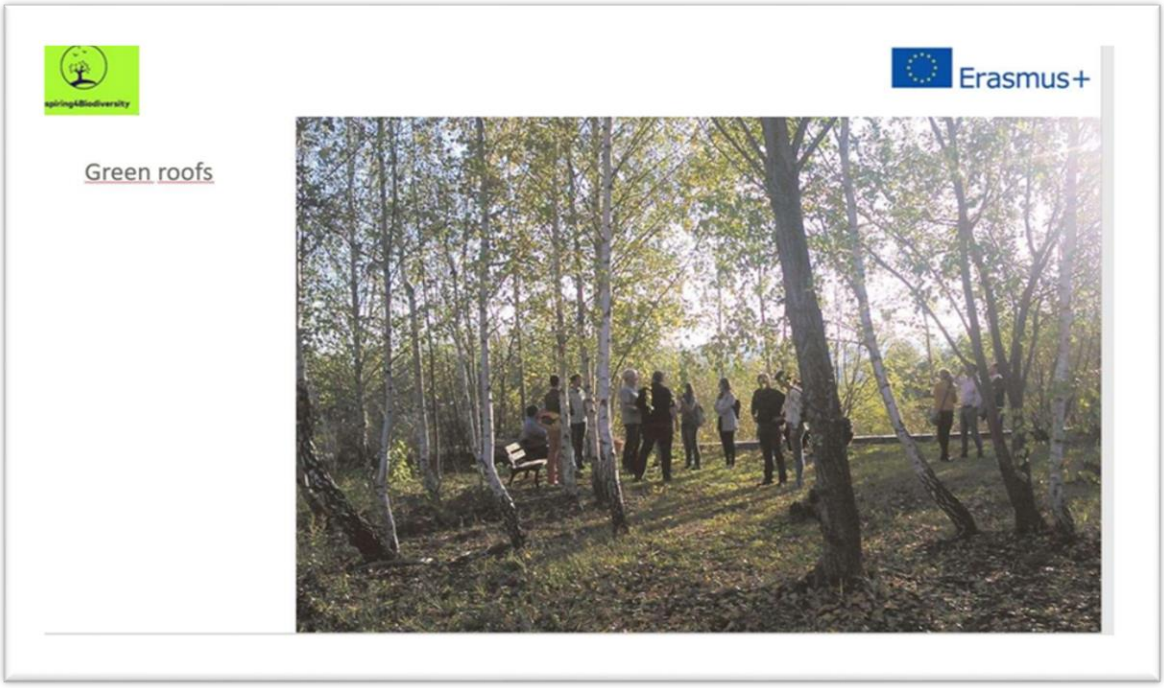
You can bot buy or DIY these objects and design options are broad. What is important – good quality of the design and – also these need maintenance up to some measure.

Good examples

The following slides 22 – 27 introduce several concrete examples of the above explained features implemented in the practice.

It is recommended to adjust this part according the needs – e.g. using examples a presenter knows well helps to present the real-life examples much better.

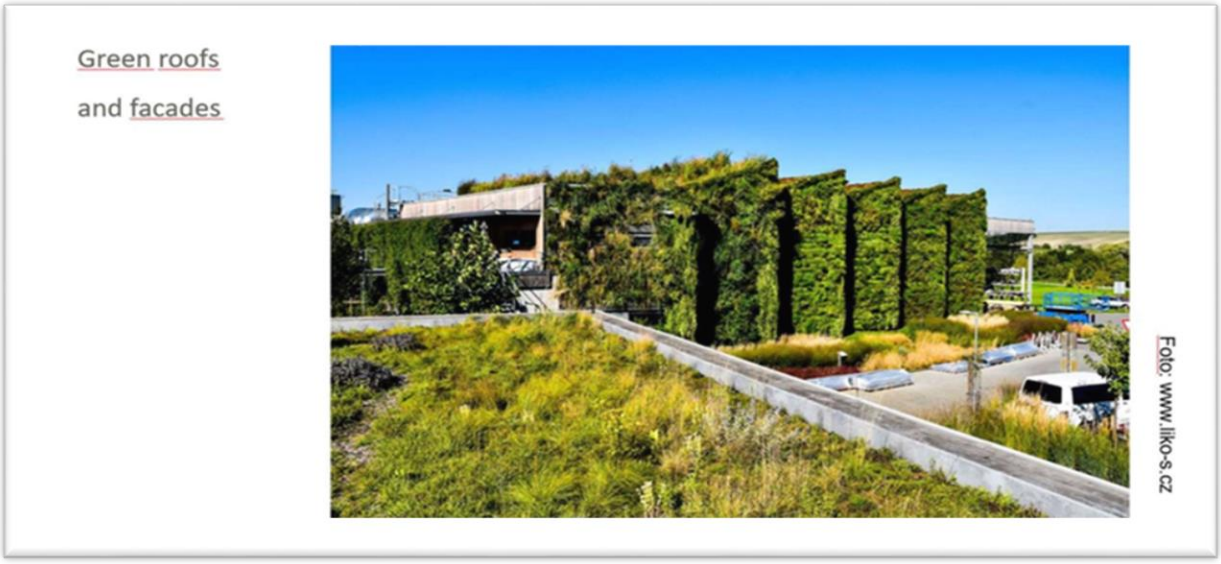
Slide 22



This is an exceptional intensive green roof on a Fruchthoff company, a regional fruit and vegetables retailer located in Konstanz, Germany. The roof has several parts different in character and some look like a very pleasant small park where employees can have their break.

An interesting fact: three different species of edible mushrooms grow on this roof in October.

Slide 23



A Czech family run manufacturing and construction business LIKO-S brings innovative solutions also in the area of green roofs and facades. This “living hall” named LIKO-Vo was finished in 2019.

LIKO-Vo pioneers the concept of "living buildings" based on natural thermal stabilization. This is possible thanks to the green roof and facade, retention pond, and other technologies. In addition to the apparent aesthetic benefits, the green faces of the building provide thermal insulation and function as a root sewage purification station. All of the waste water from the building is naturally purified and re-used for irrigation. Equally important is the green roof.

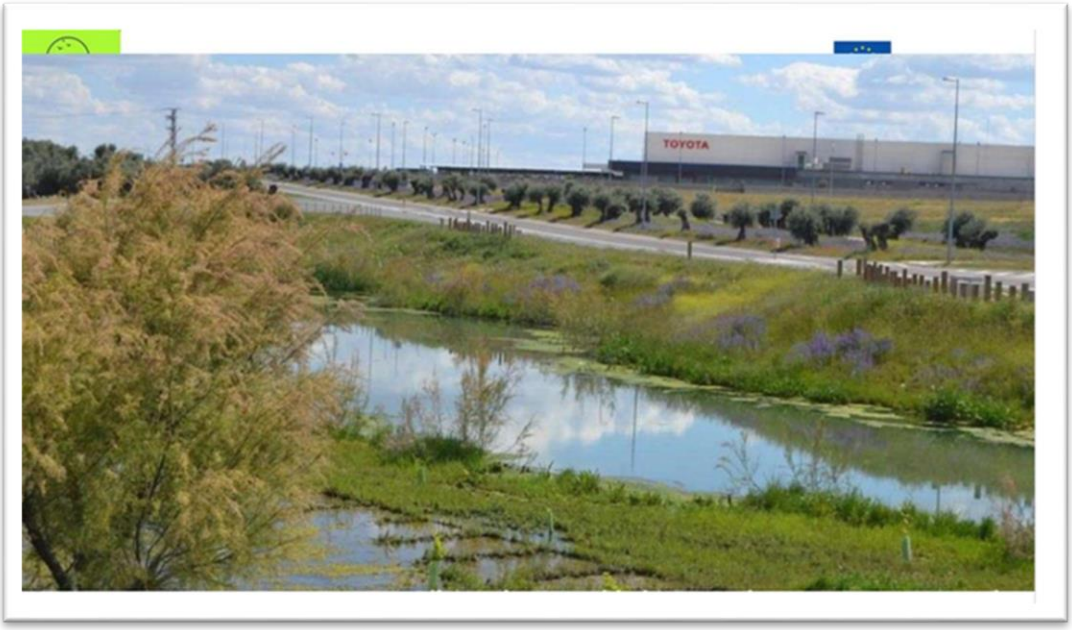
Slide 24

This is a man-made pond in the Wastewater Treatment Plant Rakytovce in Slovakia built in 2018. It retains rainwater from the nearby building and nowadays is full of life – a number of native plant and animal specie live there. What is interesting about this site – it is also used to teach children on biodiversity during school excursions.

Slide 25

Rainwater retention in the premises of IKEA Components, Slovakia is interesting because of two facts: it works as a needed flood-prevention measure and supports biodiversity in a remarkable way. For example, in the ponds and wetland built several years ago, 5 protected species of amphibians live nowadays, 2 of them of European importance.

Slide 26

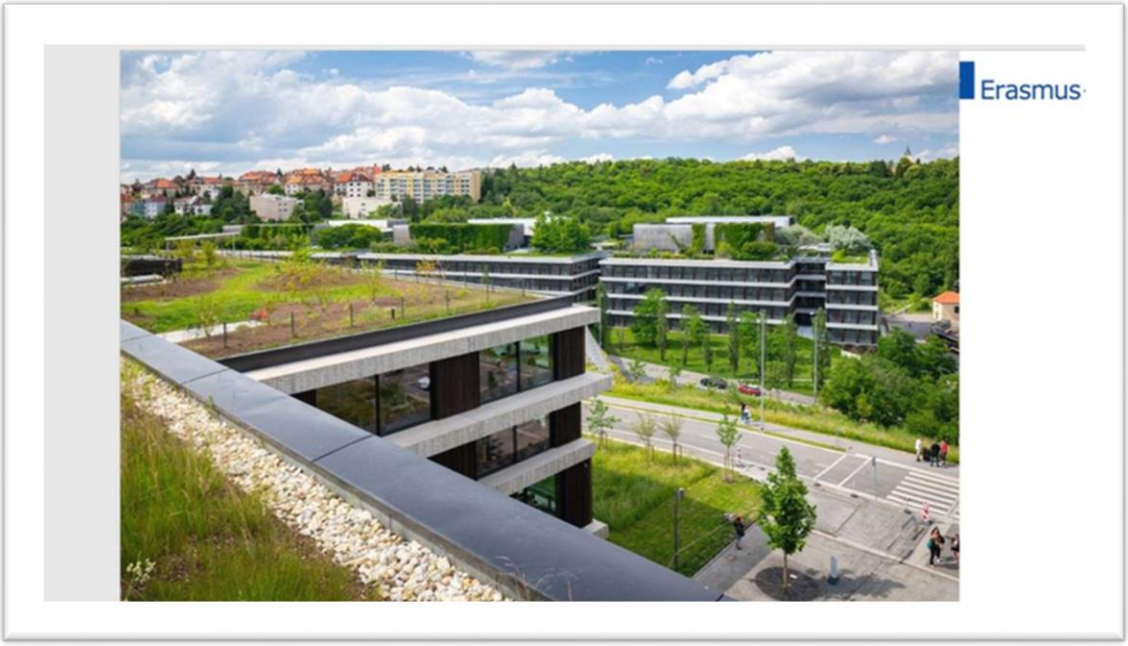


The industrial park Plataforma Central Iberum (Spain) is truly exceptional in many ways. To speak about water: rainwater from paved surfaces is retained and used to feed an oval which is about 10 km long. Water brings life to the otherwise rather dry area and supports many plant and animal species. It attracts also people – for example a bike trail and a number of interesting leisure sites are part of this oval.

More information about this example:

https://www.biodiversity-premises.eu/en/plataforma-central-iberum-es.html

Slide 27



These two buildings of the ČSOB bank in Prague the most likely represents the best of sustainability and biodiversity enhancement in the building sector in the Czech Republic. It involves broad spectrum of biodiversity-oriented features and what is worth mentioning: when the newer building was built and its surrounding landscaped, a number of mainly native tree and shrub species were used.

More information:

https://www.biodiversity-premises.eu/en/ceskoslovenska-obchodni-banka.html

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