DESIRE

DESIGN FOR ALL METHODS TO CREATE AGE-FRIENDLY HOUSING

FACTSHEET

TRANSNATIONAL REPORT ON SKILLS GAPS

Co-funded by the Erasmus+ Programme of the European Union

Project **OVERVIEW**

In December 2020, this new Erasmus+ project kick-started, with an international partnership involving 4 countries working on Design for all (D4All) applied to age-friendly housing. DESIRE will provide professionals in the building industry and home furnishings sector with the tools and skills to apply D4all methods as an integral part of the design process, with the aim to create or adapt age-friendly housing as a solution for the wellbeing, comfort and autonomy of the older adults or dependents at home.

PARTNERS

- Technical University of Bratislava – Slovakia | COORDINATOR
- Institute of Ethnology and Social Anthropology Slovak Academy of Sciences - Slovakia
- CETEM - Spain
- SHINE 2Europe - Portugal
- InnoRenew CoE - Slovenia

WHY IS THE DESIRE PROJECT SO RELEVANT?

Europe is ageing. Eurostat population projections foresee that the number of people over 65 is expected to grow up to 28.50% by 2050. According to the World Health Organisation (WHO), the physical and social environment are key determinants of whether people can remain healthy, independent and autonomous long into their old age. Therefore, housing is an important determinant for active and healthy ageing. However, a large part of the housing stock in the EU has not been designed to accommodate the needs of older people.

This is a great opportunity for the building and home furnishings sectors. What is needed is to enforce innovative actions at training level to overcome skills mismatches and promote new design guidelines focused on older adults' needs.

WHAT ARE OUR MAIN OBJECTIVES?

- Define the conceptual framework of the DESIRE training course and overcome skills mismatches on D4All at VET and labour market level.
- Develop an innovative training course on D4All to meet the emotional, cognitive and social needs of older adults while driving new opportunities in the habitat sector.
- Raise awareness about D4All and age-friendly housing in habitat professionals and general society as a key determinant of active and healthy ageing.
- Foster interactions and knowledge exchange in the design process between cross-cutting links such as Science, Social Sciences and Arts (Design, Habitat) to develop competitive and innovative products and services.

Intellectual **OUTPUTS**

IO1 Transnational Guide on skills gaps in Design for All (D4All)

IO2 DESIRE Joint Curriculum and Training Content

IO3 DESIRE Content Repository Platform

IO1

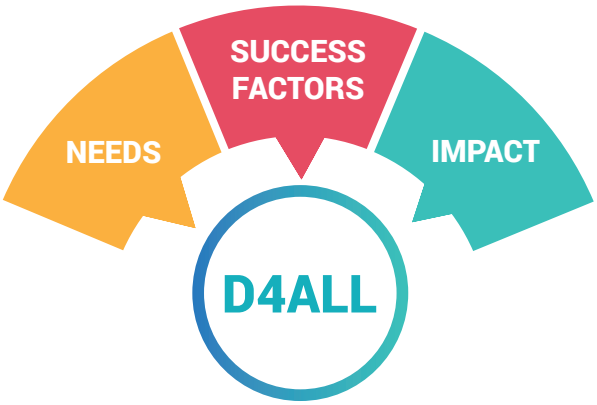
TRANSNATIONAL GUIDE ON SKILLS GAPS IN DESIGN FOR ALL (D4ALL)

MAIN GOAL

To provide a valid basis for the DESIRE Joint Curriculum and development of the training materials.

NEED ANALYSIS

Qualitative and quantitative research at the national and transnational level.



User consultation: human-centred design is an approach for problem-solving by involving the human perspective in every step. DESIRE organised **several evidence gathering workshops in different countries:**

1) Older adults, their families or caregivers - SHINE in Portugal – 22 participants.

2) Experts from social sciences and municipalities - IESA in Slovakia – 20 participants.

3) Professionals on physical and mental health and built environment - IR in Slovenia – 9 participants.

4) Professionals from the building industry and home furnishings sector, as well as academic and medical doctors - STU in Slovakia – 45 participants.

OUTPUTS

A series of national studies that included the direct participation of target users and other relevant stakeholders; both professionals and non-professionals, through workshop contributions and/or other collection methods (e. g. survey, interviews, etc.). According to the results, a Matrix of Gaps was developed to integrate into a coherent scheme the different outputs collected through the national reports.

A1 Comparative analysis of Habitat-related VET training offer in D4All	A2 Human-centred design workshops	A3 Matrix of Gaps in D4All	A4 Transnational Report on Skills Gaps
Desk research	Workshops & national reports	Matrix of Gaps	Transnational report & factsheet
CETEM M1-2	STU M2-5	IESA M5-7	SHINE M7-8

SLOVAKIA

TRAINING OFFERS IN D4ALL

There are many schools in Slovakia with a focus on design, architecture and civil engineering. The findings show that schools mostly teach the basics of accessible/barrier-free design and ergonomics. Universal Design and Design for All are a less covered topic. However, schools often state that they lead students to reflect on user requirements and to people with diverse characteristics and needs, which suggests an ethical basis for universal design and Design for all. In some cases, university study materials were among the literature used in secondary schools, because study materials for secondary schools on this topic are not sufficient, so it would be appropriate to create them. Sometimes, legislative and standard documents are included among the study materials, especially at universities, e.g. Decree no. 532/2002 Coll. (Decree of the Ministry of the Environment of the Slovak Republic, which lays down details on general technical requirements for construction and on general technical requirements for constructions used by persons with reduced mobility and orientation).

STAKEHOLDER CONSULTATION

Two International workshops with experts/academics in the areas of Social Anthropology, Sociology and Psychology, as well as policy makers from municipalities were held, with a total of 20 external participants.
Two more workshops took place, with 45 professionals from the building industry and home furnishings sector, as well as academic and medical doctors.

MAIN GAPS IDENTIFIED

- Insufficient understanding of the Design for All / Universal Design methodology.
- Insufficient information on the needs and requirements of people with various disabilities or limitations, or people of different ages (based on empathic and participatory planning).
- Narrowed understanding of creating an accessible environment (ramp, accessible toilet, elevator).
- Narrowed understanding of D4All as a specialized design and design of special spaces, buildings, and premises.
- Accessible housing solutions should not be understood only as a requirement of a small group of people, but it is necessary to provide concept of housing for all.
- Lack of study materials, especially in secondary schools, more than legislation and university literature.
- Lack of study materials in accessible forms also for people with visual impairments or mental disabilities.
- Lack of interactive study materials supporting the active involvement of students in the teaching process.

STAKEHOLDER CONSULTATION

Good examples of implementation of the D4All/UD principles include the course **Humanity in Design** which is held by doc. akad. soch. René Baďura at the Department of Furniture and Interior Design, Faculty of Wood Sciences and Technology, Technical University in Zvolen; the course on **Humanization of Microenvironment**; and the course of **Ergonomics and Universal Design** held at the Department of Design, Faculty of Architecture and Design, Slovak University of Technology in Bratislava.

SPAIN

TRAINING OFFERS IN D4ALL

The desk search collected and analysed 20 trainings in the field of VET, Higher Education and other related courses oriented to the objectives and scope of the DESIRE project. Most only include offers responding to competencies required by regulatory orders, the National Agency for Quality Assessment or Accreditation White Papers.

In many trainings, it has not been possible to identify contents that respond to the competences on Universal Accessibility or D4All. In some cases, it is indicated that this competence is treated in a transversal way, but it is difficult to imagine that students can acquire it if it is not present in the syllabus.

In the case of Universities, regarding the presence of content on accessibility, it is highly variable if different degrees are compared, but also between study plans of the same degree. It can be observed that, while these technical studies have at least one subject with contents on UA and D4All, there are others with a more social focus where the plans hardly have the presence of these concepts or has not yet clearly penetrated any of these studies. In some specific cases, it is beginning to show itself in the form of good practices.

MAIN GAPS IDENTIFIED

- An important variety of contents and competences in the different study plans of each discipline, as well as little correspondence, in many cases, between competences and contents.
- The general lack of knowledge about the principles of the UA and D4All and their scarce presence in the undergraduate curricula and also of enabling masters for professional practice.
- The persistence in many areas of an inadequate approach, merely of care or elimination of barriers.
- The existence of good practices only where involved teachers worked and / or in sectors where a legal obligation already existed.
- Lack of a culture of accessibility, due to ignorance, denial of its need in specific sectors, inexistence or scarcity of regulations that require compliance, or lack of consideration of the end-user in the process.
- Occasionally, the barrier is produced by the persistence of outdated models with respect to accessibility or attention to disability.
- Lack of interest, involvement, and/or preparation of the teaching staff.
- In some cases where UA and D4All are being applied effectively in the classroom, there are also barriers to lecturing them due to their own visibility and entity.

BENCHMARKING OPPORTUNITIES

Great differences have been detected in the way of including D4All in training curricula. In some cases, they have opted exclusively for transversality, introducing topics or activities in certain subjects. In other cases, specific or specialized subjects on the topic have been chosen, which can be complemented with transversal content in other subjects. Although both strategies seem appropriate, it has been found that the option of transversality entails, in most cases, an incomplete vision of D4All, because it tends to focus on those more technical and normative aspects (for example, regarding to the accessibility of the built environment), leaving aside other issues such as the characterisation of people with disabilities, accessibility in communication or support products. It is necessary to align D4All initiatives with the strategies of the SDGs and the 2030 Agenda, in order to achieve greater relevance in the curriculum of the competences related to fundamental values, human rights and the challenges of society.

PORTUGAL

TRAINING OFFERS IN D4ALL

From the desk search in Portugal, what stands out the most is the lack of professional courses with reference to inclusive design. Some training units refer to the relationship between man and the environment but mainly focusing on ergonomics in the workplace.
In the University degrees, D4All or related themes tend to appear, although mostly as modules or disciplines. There are several master's and postgraduate courses that include the theme of inclusive design, and also a number of thesis and publications connected to this area being published in the last few years, which demonstrates an encouraging interest in design for all.

USERS CONSULTATION AND CONCLUSIONS

Two workshops with a total of 22 older adults, their families or caregivers were held, to identify users' needs, problems and challenges in the housing environment.
In what concerns the older adults needs and wishes, the most important issues addressed and that can inform the way the training curricula are defined and developed are comfort, access to entrances to buildings or houses; the outdoor space or balconies and access to outdoor spaces, such as sidewalks. Houses shall be thought of or retrofitted to ensure full accessibility, space and storage, white light and natural light and good thermal conditions. They are open to smart technologies, namely to improve security and warning in case of accidents.

MAIN GAPS

A huge educational gap exists and a structured offer of D4All training is necessary, especially for long life education of professionals in the construction and furniture sectors. The report The Teaching Experiences of Inclusive Design in Portugal, published in 2006, already referred at that time there was a pressing need to invest in research, in the training of teachers and in the adaptation of curricular plans in university courses. If this latter measure fosters relevant results, these are however only visible in the medium / long term, as university education is longer and brigs new professionals to the market, that take some time to establish and to be able to implement their work priorities.
On the contrary, the measures that target professional training allow to achieve results in a shorter period, including in the qualification of existing professionals, through lifelong learning, being thus very effective. However, not much advanced in the last 15 years and a long pathway is still ahead for the inclusion of D4All in sufficient training offers.

LOOKING INTO THE FUTURE

Bearing in mind that there is a very limited offer of training on inclusive and universal design, the DESIRE project is of high relevance to the Portuguese context. With the continuous ageing of the population and considering the role that inclusive design can play as an anti-stigmatizing agent in changing mentalities for social inclusion processes, it becomes even more urgent to prepare spaces and objects that foster greater inclusion and participation of older adults in society.

SLOVENIA

TRAINING OFFERS IN D4ALL

Results of the desk research suggest that D4All methods or inclusive design courses are rarely included in the curricula of Slovenian educational institutions. Especially at the secondary level of education, professional courses do not include ergonomics or inclusive design courses as part of the curricula. In higher education programmes, such as faculty for product and interior design, students gain basic knowledge of ergonomics and ergonomic design, but lack courses on D4All methods. Similarly, ergonomics is included at several health faculty curriculums but mostly in relation to the workplace health promotion. Content related to the mental well-being in the built environment is even more scarce in identified programmes and courses, which focus (separately) either on working with older adults (e.g., social work) or designing the built environment. Even the courses focusing on built environment design most often do not cover aspects related to mental well-being but emphasise technical and technological aspects of design and construction. Thus, there is a huge educational gap in D4All courses and training in Slovenia at all educational levels and professions.

WORKSHOP CONCLUSIONS

In Slovenia workshops with professionals in charge of the physical and mental health of the built environment, such as architects, ergonomists and medical doctors, nurses and psychologists involved 9 participants.

They highlighted the importance of comprehensive approach when it comes to designing built environments for older adults. It is important that interior design considers the needs of older adults as a specific group of people and also the unique needs of each individual. The participants believe that most of the ergonomic features identified in the workshop remain a challenge and opportunity for future steps.

MAIN GAPS AND WAY FORWARD

It is important to focus on ergonomic features that are partly or not yet established in practice. Based on the work developed it is concluded that even the most basic features, such as properly designed chairs and kitchens and safe and illuminated path between the bedroom and toilet, are not yet regularly used in practice and remain a challenge for future designs of built environments for older adults. Similarly, most features of the built environment that positively affect mental well-being of occupants are rarely implemented in practice, according to the workshop participants. This indicates that comprehensive universal or inclusive design courses are needed in Slovenia, to educate designers, architects, construction workers, and other professionals involved in the design and construction process.

It is necessary to transfer knowledge in a way that students understand and empathize with the needs of older adults. Instead of only providing solutions, the training offer should highlight everyday issues and struggles of older adults; such an approach would motivate students not only to better internalize presented information but also to apply it to the real-world when given the opportunity.

Matrix of GAPS

This Matrix of Gaps is an overview of the major domains to be addressed as needs in the Design for all methods in curricula on the national level at the various levels of education. Each partner coloured the colour the individual fields in the table according to the urgency of the gap identified.

SLOVAKIA

	Topics	Architecture	Design	Social work /assistance	Medicine / Healthcare	Other
01	D4All / Inclusive design / Universal design - theory					
02	Basic physiological needs of (older) people related to the built environment					
03	Requirements on the built environment I. – Urban design					
04	Requirements on the built environment II. - Architecture (housing)					
05	Requirements on the built environment III. - Design and ergonomics, used materials					
06	Advanced and assistive technologies					
07	Supporting activities, social atmosphere, and wellbeing in the environment					
	Safe and friendly support of physical exercise					
	Mobility					
08	Inclusive human-centered approach					
	Participatory process of planning					
	Stereotypes and ageism					
	Supporting self-sufficiency, meaningfulness, sense of foreseeable future					
	Home as a process, ageing in place					

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
- The topic is not present in curricula on any levels of education in the specific field of study

SPAIN

	Topics	Architecture	Design	Social work /assistance	Medicine / Healthcare	Other
01	D4All / Inclusive design / Universal design - theory					
	Regulations that govern it					
02	Basic physiological needs of (older) people related to the built environment					
	Acoustics					
04	Requirements on the built environment II. - Architecture (housing)					
	Flexibility, adaptability, inclusiveness and appropriate layout					
05	Requirements on the built environment III. - Design and ergonomics, used materials					
	Simple-to-use					
	Adjustable, multi-functional furniture					
	Sustainable, local, natural, esthetic materials					
06	Advanced and assistive technologies					
	Ethical dilemma – over-watching					
07	Supporting activities, social atmosphere, and wellbeing in the environment					
	Spaces for socialization and private spaces					
	Safe and friendly support of physical exercise					
	Mobility					
08	Inclusive human-centered approach					
	Participatory process of planning					
	Stereotypes and ageism					
	Supporting self-sufficiency, meaningfulness, sense of foreseeable future					
	Home as a process, ageing in place					

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
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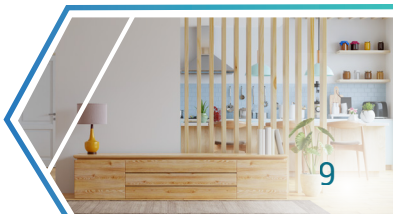

PORTUGAL

	Topics	Architecture	Design	Social work /assistance	Medicine / Healthcare	Other
01	D4All / Inclusive design / Universal design - theory					
02	Basic physiological needs of (older) people related to the built environment					
04	Requirements on the built environment II. - Architecture (housing)					
	Compliance between accessibility and values of historic buildings					
05	Requirements on the built environment III. - Design and ergonomics, used materials					
	Sustainable, local, natural, esthetic materials					
06	Advanced and assistive technologies					
07	Supporting activities, social atmosphere, and wellbeing in the environment					
08	Inclusive human-centered approach					

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
- The topic is not present in curricula on any levels of education in the specific field of study

SLOVENIA

	Topics	Architecture	Design	Social work /assistance	Medicine / Healthcare	Other
01	D4All / Inclusive design / Universal design - theory					
02	Basic physiological needs of (older) people related to the built environment					
	Visual comfort					
	Haptic, tactile and thermal comfort and multisensory stimuli					
04	Requirements on the built environment II. - Architecture (housing)					
05	Requirements on the built environment III. - Design and ergonomics, used materials					
	Simple-to-use					
	Adjustable, multi-functional furniture					
06	Advanced and assistive technologies					
07	Supporting activities, social atmosphere, and wellbeing in the environment					
08	Inclusive human-centered approach					

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
- The topic is not present in curricula on any levels of education in the specific field of study

Matrix of Gaps **RESUME**

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
- The topic is not present in curricula on any levels of education in the specific field of study

01 D4All / Inclusive design / Universal design - theory

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SPAIN PORTUGAL SLOVENIA	SLOVAKIA PORTUGAL SLOVENIA	SLOVAKIA SPAIN	SLOVAKIA SPAIN PORTUGAL SLOVENIA
PORTUGAL	SLOVAKIA	SPAIN	PORTUGAL SLOVENIA	
SLOVENIA				

02 Basic physiological needs of (older) people related to the built environment

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SLOVAKIA SPAIN	SLOVAKIA SLOVENIA	SLOVAKIA SPAIN PORTUGAL	SPAIN PORTUGAL
PORTUGAL SLOVENIA	PORTUGAL	SPAIN	SLOVENIA	SLOVAKIA
	SLOVENIA	PORTUGAL		SLOVENIA

03 Requirements on the built environment I. – Urban design

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA	SLOVAKIA SPAIN PORTUGAL SLOVENIA	SLOVAKIA SPAIN PORTUGAL SLOVENI	SLOVAKIA SPAIN PORTUGAL SLOVENIA	SLOVAKIA SPAIN PORTUGAL SLOVENIA
SLOVAKIA SPAIN PORTUGAL				

04 Requirements on the built environment II. - Architecture (housing)

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SLOVAKIA SPAIN PORTUGAL SLOVENIA	SLOVAKIA PORTUGAL SLOVENIA	SLOVAKIA PORTUGAL SLOVENIA	SLOVAKIA PORTUGAL SLOVENIA
PORTUGAL		SPAIN	SPAIN	SPAIN
SLOVENIA				

05 Requirements on the built environment III. - Design and ergonomics, used materials

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN PORTUGAL	SPAIN PORTUGAL SLOVENIA	SPAIN PORTUGAL	SPAIN PORTUGAL SLOVENIA	SLOVAKIA SPAIN PORTUGAL SLOVENIA
SLOVENIA	SLOVAKIA	SLOVAKIA SLOVENIA	SLOVAKIA	

Matrix of Gaps **RESUME**

- The topic is present in curricula on many/all level of education in the specific field of study
- The topic is present in curricula on some levels of education in the specific field of study
- The topic is not present in curricula on any levels of education in the specific field of study

06 Advanced and assistive technologies

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SLOVAKIA PORTUGAL SLOVENIA	SLOVAKIA PORTUGAL SLOVENIA	SLOVAKIA SPAIN PORTUGAL SLOVENIA	SPAIN PORTUGAL SLOVENIA
PORTUGAL SLOVENIA	SPAIN	SPAIN		SLOVAKIA

07 Supporting activities, social atmosphere, and wellbeing in the environment

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SLOVAKIA	SLOVAKIA SLOVENIA	PORTUGAL SLOVENIA	SLOVAKIA SPAIN PORTUGAL SLOVENIA
PORTUGAL SLOVENIA	SPAIN	SPAIN	SLOVAKIA	
	PORTUGAL SLOVENIA	PORTUGAL	SPAIN	

08 Inclusive human-centered approach

Architecture	Design	Social work/assistance	Medicine/Healthcare	Other
SLOVAKIA SPAIN	SLOVAKIA	SLOVAKIA SLOVENIA	SLOVAKIA SPAIN	SLOVAKIA PORTUGAL SLOVENIA
PORTUGAL SLOVENIA	SPAIN	SPAIN PORTUGAL	PORTUGAL SLOVENIA	SPAIN
	PORTUGAL SLOVENIA			

Main CONCLUSIONS

From the work developed it is clear that there are still some barriers for the implementation of Universal Design and D4All in educational offers, namely for the following reasons:

- Lack of a culture of accessibility, due to insufficient knowledge, denial of its need in specific sectors, inexistence or scarcity of regulations that require compliance or lack of consideration of the end user in the process.
- Persistence of outdated models with respect to accessibility or attention to disability.
- Lack of interest, involvement and / or preparation of the teaching staff.
- In some cases where Universal Design and D4All are being effectively applied in the classroom, there are also barriers to give them visibility and a separate identity.

MAIN TRAINING NEEDS

TRAINING NEEDS OF POTENTIAL TRAINEES

- Offers for lifelong training (VET, especially for secondary education) in all areas of D4All.
- Offers targeted at professionals of the building and construction sector, including retrofitting (e.g. carpenters, small contractors, bricklayers, electricians, etc.).
- Offers for professionals in the furniture sector, both those who design and build it as well as the ones who repair furniture.
- Interactive study materials for all age groups of learners (also including pupils from secondary school to university, older people, and persons with sensory, mental, or cognitive disorders – “easy to read”).
- Publications on the web with detailed solutions (with drawings, pictures and other visually attractive material).
- Good examples from practice, locally and globally, (e. g. photographs and other visual material) with a description and plan of the solution.
- Virtual tours of living spaces and interior equipment.
- Visits and discussions with older adults about their needs.
- Cooperation and discussion with the industry.
- Videos with examples from practice.
- Discussion forum on design for all /universal design (with advice from experts).

APPROPRIATE TRAINING CONTENTS AND METHODS

Contents related to different areas of housing:

- Thermal conditions.
- Lightening and windows.
- Accessibilities.
- Sustainable materials.
- Storage.
- Space and comfort.

Contents in the field of health care and the ageing population:

- Ergonomics for older adults.
- Importance of adjustable furniture.
- Physiological and psychological needs of older adults.
- Health limitations of older adults.

Main **CONCLUSIONS**

MAIN TRAINING NEEDS

Contents in the field of interior and product design:

- Space arrangement.
- Importance of adjustable furniture.
- Apartment layout.
- Feeling of home.
- Physical activity.
- Complex comfort.
- Fine motor skills.
- Assisted living.
- Ergonomics in nursing / care giving.
- Ageism & design.
- Sense of usefulness.
- Lighting, good air quality, and thermal comfort, reducing noise.
- Homely spaces, greenery and calming colours that stimulate human senses.
- Accessibility to outdoor spaces (garden, balcony).
- Simple-to-use amenities.
- Use of natural materials.
- Promoting indoor physical activity.
- Safety at home.

DESIRE

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Editors: Carina Dantas & Joana Vieira | SHINE 2Europe

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