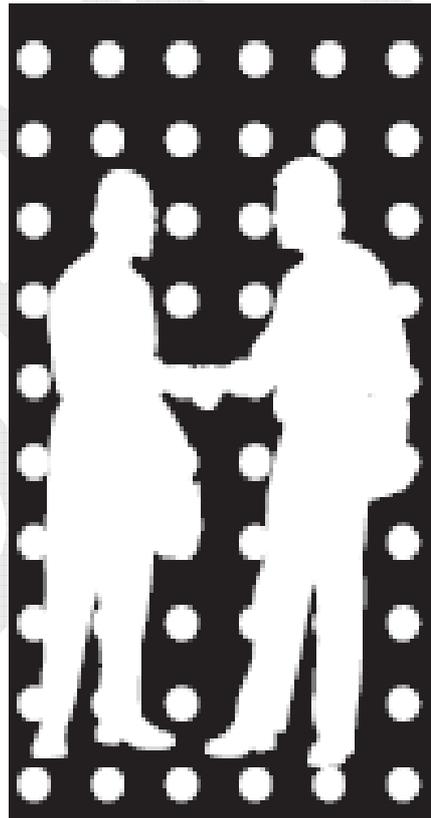


Training in ICT - a key factor for young people with ASD to find jobs

Practical methodology



Development and Piloting a Model for Occupational Training and Employment of People with ASD in the ICT Sector

The project is co-financed by EC

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Contents

Introductory Outlines.....	3
Disclaimer.....	4
General Description of ASD.....	5
Definitions.....	5
Fact sheet.....	6
Challenges and Innovative Approach.....	7
Initial Attitudes about the Process of Training and Employment.....	8
Methodology of Work.....	10
Individual psychological assessment and professional development planning.....	10
Awareness campaign for the employers - ICT companies.....	11
Basic ICT skills training for people with ASD.....	11
Right job for right person.....	12
Employers and company team trainings.....	13
People with ASD practical training.....	14
Formalizing the labor market.....	15
Conclusions.....	15
Challenges.....	16
Bibliography.....	16





Introductory Outlines

Autism is more widespread than we could imagine. Last 20 years the number of children diagnosed with ASD in USA has increased 10 times. The world statistics is practically the same. There is no such statistics for Bulgaria, but the specialists assume there is no reason our country to make an exception from the world tendencies. Autism affects not only the children. They grow up to become adults with autism. In UK only 15% of people with ASD are fully employed. The average rate of employment varies from less than 5% in developing countries up to 25 % in developed ones. The next details could explicate this state of affairs.

The civic society's agenda doesn't indicate the inclusion of ASD people into everyday life. The **government** is indebted to these people because there are no appropriate employments mechanisms developed and adopted and no measures and policies to encourage companies to hire people with ASD exist. The **employers** lack general information and knowledge about people with ASD – their strengths and weaknesses. So they have no motivation to try to hire autisms but also could not assess the benefits of having a person with ASD in the team such as the changed social image of the company or the different perspective they have towards routine tasks and willingness to accomplish unpleasant for the others job. The **organizations** which act on behalf of people with ASD and other disabilities are not economically active and business oriented. Mostly these are non-profit organizations. The **families** of people with ASD are in a “voluntary” isolation – they are left alone by the society and by the social system to take care about the person with ASD. As a result they are not active when it comes to finding job for their relatives with autism.

The methodology addresses some of these issues from the perspective that every social change is dependent on the concrete efforts of society actors. The document provides ideas for policy changes to bridge the regulations gaps, as well as concepts how to affect the negative social attitude towards hiring people with ASD and other disabilities.

This paper is developed and based on the results from the project *Development and Piloting a Model for Occupational Training and Employment of People with ASD in the ICT Sector*, implemented by European Software Institute (ESI) Center Eastern Europe, Bulgarian Association of Software Companies (BASSCOM) and Association Autism. Good practices, lessons learned, challenges and project methodology are described.

It is intended for the socially responsible employers in the field of Information and Communication Technologies (ICT) who would hire a person with Autism Spectrum Disorders (ASD); for the social services providers, psychologists and special pedagogues





who work with people with ASD; for people with ASD and their families and in some aspects refers also to the engagement of people with other disability.

In this document users will find the subsequent content:

- General description of ASD - definitions and origin, reasons and characteristics, social and communication deficits in behavioral aspect;
- Steps to be followed to create sustainable jobs for people with autism - how to match the employers' needs with the skills people with ASD have, how to deal with the challenges in communication, how to answer the demands autisms exhibit;
- Supporters' role – of assistants, mentors and psychologists for good results to be achieved;
- Conclusions and recommendations to stakeholders.

The paper gives a general overview of the problem - description of autism characteristics and the factors which influence the employment, but is also a real practical guide both for employers and people with ASD. Finally, it provides references to useful IT tools.

Disclaimer

This methodology is verified within implementation of the project *Development and Piloting a Model for Occupational Training and Employment of People with ASD in the ICT Sector* where pilot ICT training and pilot employment to the trainees were conducted. The practical guidance reflects only the experience gained in the project. The content of this document does not reflect the official opinion of the European Union. Responsibility for the information and views expressed in the methodology lies entirely with the implementing organizations.



General Description of ASD

Definitions

Scientists have no consensus reached on the reasons that cause the developmental disorders commonly called autism. They keep on searching everywhere for evidences to prove their theories - in genetics, in neurology, in micro-biology, bio-chemistry and in psychiatry. Some researchers definitively exclude the psychological factor despite the fact that in the 10th Revision of International Statistical Classification of Diseases and Related Health Problems of World Health Organization (WHO) autism is categorized in class V „Psychological and behavioral disorders”.

In terms of appearance of Autism Spectrum Disorders (ASD) there is clarity – it affects brain development and cognitive abilities at an early stage of human development: from 0 to 5 years. Symptoms of autism should appear before age of three, according to the diagnostic classification of intellectual disabilities. But the symptoms in the first two years are variable and nonspecific which makes early diagnosis problematic.

Attempts to standardize diagnosis tools are made but the results are unsatisfactory as multidisciplinary methods are used – from medicine, biology, psychology, chemistry, anthropology, environmental studies and many others. The diagnosis is also additionally complicated by the other diseases that in most cases occur together with autism – like epilepsy, Down syndrome and multiple sclerosis.

The autism is defined by the American Autism Society as a complex developmental disability that typically appears during the first three years of life and affects a person’s ability to communicate and interact with others (American Autism Society). It affects the brain functions and prevents normal communication processes and person socializing. The word “autism” comes from Greek αὐτοῦσ (auto - could be interpreted as “alone”, “himself”). For the first time the term is used around year 1911 by the Swedish psychiatrist Eugen Bleuler, originator of the term “schizophrenia”.

Autism is a psychological state which affects the way people perceive the surrounding environment, process information and communicate with other people. People with ASD have difficulties with social interrelations, communication and abstract thinking. Some people with autism have cognitive development disorders, while others’ intellectual development is above the norm. Amidst is the form called Asperger syndrome (National Autistic Society, The undiscovered workforce, 2004).

In medicine science is used the term “spectrum” to mark the presence of many symptoms and manifestations of autism. The disorders can vary from barely noticeable difficulties to critical disabilities. There are few characteristic features found in the most of ASD cases:





- Difficulty in imagination use, abstract thinking and perceiving;
- Difficulty in social interaction;
- Impairments in verbal and non-verbal communication;
- Restricted, repetitive, and stereotypical patterns of behaviours, interests, and activities;
- Difficulty in processing and modulating sensory information;
- Difficulty in planning goal directed movements;
- High levels of anxiety.

All actors involved - social service providers, education and training institutions, tutors and employers, people with ASD and their families - should consider the list above as a challenge to be overwhelmed with joint efforts.

Fact sheet

- There is no statistics of the number of people with autism in Bulgaria. The stakeholders use the global statistics facts – every one of 150 born children is diagnosed with autism.
- Over 80% of the pupils are excluded by the secondary school system.
- The unemployment rate of adults with autism is unknown.
- Only 8% of people with disabilities that have jobs are involved in programmes subsidised by the government.
- 11% of the disabled people are willing to join vocational training programmes. 58% give top priority to computer courses, 13% to foreign language courses and 7% - to accountancy and business related trainings. (NSI, 2005)
- It is expected the next 10 years the number of people with autism looking for vocational rehabilitation services to increase rapidly because of the implementation of disabled people social inclusion policies.
- There is no institutionalized or innovative model to encourage the employment of people with autism.
- Pension as the main income for 72% of people with disabilities.
- Ten non-profit organizations have been working on the necessity of social support and helping adults with autism to find employment. Three are parental organizations, other 6 provide rehabilitation services for children and only one works with adults.





Challenges and Innovative Approach

The objective of this project is to develop and pilot a new model to offer people with ASD chance to find work through introduction of ICT training curricula and employment for trainees who successfully passed the training.

The challenges this project addresses are:

- There is no training courses designed to meet the needs of disabled people in Bulgaria.
- People with ASD are included neither in vocational training nor in labour market.
- Adults with ASD are excluded from vocational rehabilitation programs.
- The employers are not aware of the benefits they would receive by recruiting people with disabilities, particularly with ASD.
- The programmes subsidized by the government do not include access to individual support at the workplace (as personal assistance, mobility allowance, etc.) for the disabled people.
- The significance of the labour environment often is neglected by the stakeholders.
- The fact that only intellectually conserved and highly functioning autisms have access to trainings and jobs.

The innovative approach to meet these challenges includes:

- Applicants with ASD to be identified and motivated to participate in the project.
- The specific abilities and limitations of people with ASD to be recognized in terms of ICT sphere.
- An appropriate vocational ICT training to be provided as an instrument to improve the quality of life of people with ASD.
- A tailored ICT training curriculum to be developed for people with ASD.
- Professional and advocacy support to be offered in the process of job seeking.
- A research to be conducted to determine the measures existing for effective inclusion of people with ASD in the socio-economic life of the country.
- The responsible state and public organizations to be encourage to provide current data about the number of people with ASD in Bulgaria.
- Responsible policy makers to be hearten to elaborate a targeted state policy supporting the equal inclusion of people with ASD in the labour market.





All the applicants with ASD who joined the project pass through an individual psychological assessment and receive an exclusively personalized employment progress plan.

The support provided for people with disabilities includes theoretical and practical training, physical adaptation in the workplace, consultation what is the appropriate workplace for all of the applicants. It could range from time-limited support to ongoing support in the workplace.

This project is designed to include instead of excluding by setting limitations to the participants. Most of the models recognized as successful for employment of people with autistic disorders are limited to highly functioning and trained potential employees. While recruiting the willing participants for this project the partners managed to reach all young people with autism and their families.

As a consequence outstanding results were achieved by the participants regarding the overcome of communication and behavioral challenges. In the beginning of the project some of the entrants experience serious difficulties in initiating a conversation, in sharing the need of support, in answering a question or a greeting. After the trainings conducted and during the practice in ICT companies the specialists who work with these young people and their families share they are deeply impressed by the progress made, a progress could hardly be achieved even within years of work, they say.

A special conference dedicated to education and employment of people with autistic disorders marks the end of the project. Representatives of the responsible government institutions were reminded they are obliged to offer current data on the number of people with ASD and the level of employment amongst them. The need of structured measures and better coordination between the institutions responsible for them was discussed too. As a result the Ministry of Labour and Social Affairs asked the partners to participate in the process of planning the priority measures and inclusion of people with disabilities in the labor market by using the structural EU funds.

Initial Attitudes about the Process of Training and Employment

"It is important to recognize that each person with ASD is unique". (Jordan, 2008)

The normal human attitude and approach towards the complexity of surrounding world is the modeling, i.e. laying the complex information in simplified and structured models, which incorporate information from different areas in one applicable for different or similar situations frame.

That was the perception of the project team initially, when the real work has started – the different specificities of 20 people with ASD to be presented to employers as a whole characteristic model to be followed when working with autistic people. Psychologists,





speech therapists and special pedagogues have developed individual assessment for every young person involved. On that basis a common profile of 20 youths was designed to be presented to the potential employers. Thus the potential managers could become aware both of some characteristic features of autistic people but also of the uniqueness, abilities and needs of each person with ASD involved in the project.

Each of the stakeholders was ready to contribute to the project goals but has his own apprehensions. There was no discords regarding the goals, approaches and participants. The worries of the employers were based on the possibility of inadequate behaviour and risks of psychological traumas during the work process. The apprehensions were discussed between the stakeholders and overcome during the whole implementation period.

The employers were afraid that are not familiar with the specific features of ASD. Personal meetings and discussion were organized with them and their teams during which the project experts succeeded to present the general picture of ASD, the benefits for the company of hiring people with ASD and the personal abilities and skills of the young people involved in the project.

In most of the companies the environment and the human relations are friendly and sincere. The teams and employees observe the corporative culture but nobody perceive this as some kind of engagement or obtrusion. The employers and their staff were afraid that exactly this unreserve behaviour could hurt the youths with ASD who they would hire. The project team and experts managed to convince the employers that this friendship and sincerity wouldn't hurt the youths, but just on the contrary it is useful in communication with autistic people as they are not able to understand metaphores, allusions, indirect communication and artificial human behaviour.

The specialists (social service managers, psychologists, social pedagogues and speech therapists) were afraid that in some specific aspects the youths with ASD will not meet the employers requirements and expectations, like the level of ICT competences they have, but mostly these apprehensions were related to the challenges and difficulties to bridge the interests of the participants and the specificity of the work. Because people with ASD are only motivated to do something if they find it interesting.

The project was designed to meet the demands of all stakeholders and thus some risks were overcome – like the different level of functioning, skills and competences of people with ASD and their individual level of learning and work abilities. Concerning the specialists who were supposed to maintain the ICT training with people with ASD – they themselves needed such training first.

Most of **the people with ASD** have never been employed before. They didn't know what work discipline is and ability to collaborate with teams and managers. They could endure the change in their everyday routine with variety of reactions and feelings. The



risks related to job relieving due to unsatisfactory performance had to be mitigated by choosing the most appropriate position for each candidate. Despite all risks all the participants were very motivated to learn how to work with ICT.

The families of people with ASD had to be convinced that their children and relatives with ASD could perform appropriate work tasks without any negative consequences on their psychic condition. Parents and relatives were afraid young autisms are not able to manage the requirements and the stress.

The employers organizations had to guarantee they will observe the legal aspect when hiring young people with ASD. The legislation defends the rights of people with disabilities and burdens the employers with obligations to report the changes in their relations with employees with disabilities. Thus the employers organizations had the task to defend the rights of employers and support them in their relations with the government.

Methodology of Work

Individual psychological assessment and professional development planning

Description

1. Communication with the target group

Three national media channels distributed information about the project objectives and activities. Psychologists and pedagogues from Autism Association contacted the families of young people with ASD and informed them about the project and the chance they to be trained in ICT and supported in the process of job finding. The families interested to participate were invited to a joint meeting during which all the aspects of the project were presented. Thus the team started working with 20 young people aged between 17 and 27 years.

2. Individual psychological assessment

In a period of two months two psychologists led a team of six psychologists and special pedagogues. They performed 60 interviews with 20 persons with ASD and their families. The interviewed weren't only patients of the Center for social rehabilitation and integration of persons with ASD and thus some of the psychological assessments were developed within the project implementation period.

3. Communication with employers

BASSCOM disseminated information about the project amongst its members – more than 50 companies working in ICT asking also them to share what kind of information they



need if they would hire a person with ASD. These questions were also included in the individual assessment together with standardized methods for individual psychological assessment of persons with ASD.

Risks

More time (than one month as planned in the project) and meetings are needed to be elaborated qualitative and useful psychological assessment.

It is very difficult to plan the right combination of standardized methods and questions with practical information so the personal psychological profile to be elaborated.

Families give wrong information in order to cover the real level of the disability, thus the assessment could be inappropriate or inadequate.

Results

21 individual assessments are made, only one is not relevant to the real state of the person with ASD.

Awareness campaign for the employers - ICT companies

Description

A workshop for the high management of ICT companies was conducted. Summarized information about people with ASD (based on the individual assessment of every participant) was presented to the employers. Request for individual assessments was made by the employers. Individual assessments were provided to employers. They considered them and made their initial selection. 10 companies decided to offer training, probation and job for young people with ASD.

Risks

Difficulties to develop and disseminate appropriate messages aimed to convince the employers.

Employers in general show lack of basic information about autism.

Employers not always properly communicate the kind of employers they need.

Results

Employers start to better understand the benefits for their companies if they hire people with ASD.

Basic ICT skills training for people with ASD

Description





The training was led by special pedagogues in the Center for social rehabilitation and integration of people with ASD. The training form was individual. The topics in the curricula are in consistence with the globally recognized certification schemes – IT Card, ECDL, etc. The trainings were planned to be conducted in a group form, but after first few classes the demands of the trainees imposed individual form of conducting. Thus the planned hours were increased approximately 20 times. The training of 18 persons cost 10 person months or about 220 person days. The training classes for unemployed youths with ASD continued after the completion of official training and will continue after the project completion.

The subjects ranged from basic to profound skills for work with the following products: Microsoft Office 2003, Microsoft Excel 2003, Outlook, Internet, web based mail services, social networks, Microsoft Power Point 2003.

Risks

The risks are related to the specific features of people with ASD. The trainers should be professionals who work with them in the social service or working place.

With the lower functioning adults with ASD the training may continue more than 6 months because of their learning and apprehension style.

After 8 of trainees started to work, the need of supplement training occurred – like English language, Google Analytics, Photoshop and Adobe Illustrator, functional testing of IT solutions. Some of these additional practical trainings were conducted in the companies.

Results

The trainees have different style of learning and acquiring new knowledge in ICT topics. Seven of 20 recruited persons have normal rhythm of learning. Four from 18 trainees who finished the course achieved excellent results in ITcard test and received globally recognized certificate on computer skills.

Ten persons continue with the training twice a week 2-hour class.

Only two youths with ASD were patients of the Center for social rehabilitation and integration of people with ASD. After the training completion the rest 16 continue to visit the Center and use different social and training services.

Right job for right person

Description

When the project started and employers declared their wish to participate providing job for people with ASD the project team requested them to formulate the potential tasks



which could be assigned to persons with ASD. Ten individual interviews with 7 IT companies were conducted by the project team for précising the opportunities. All of them were kept informed about the possibilities in the other companies. The employers were encouraged by the project team to discuss the opportunities with their staff. Two of the companies couldn't find the appropriate place for the trainees with ASD.

The initially proposed tasks were:

- Work with content management systems;
- Functional testing of IT solutions and mobile applications;
- Work with image editors;
- Accessibility testing;
- Financial data entry;
- Administrative tasks – digitalizing of documents, archive, scanning, translation of manuals and IT documents on particular product, data entry.

The employers nominated the project team to make the first selection of candidates with ASD. After the first selection made by the psychologists and special pedagogues who worked with youths meetings between the candidates and employers were organized. Only one change happened before starting the practical trainings in the companies.

Risks

A gap occurred between the wishes and possibilities of job applicants and the needs and the requirements of employers.

It was not always possible to ensure the participation of all stakeholders – training organization, social organization, private company, families, legal advisors, HR specialists.

Results

Eight persons were selected to work in 7 organizations – 6 IT companies and IT department of a university.

Employers and company team trainings

Description

The interviews with employers, conducted by the project team, started in parallel with the training for youths with ASD. About 20 interviews and trainings with 5 ICT companies were conducted on-side during 2 months. More than 30 other meetings,



trainings and discussions were conducted between the psychologists and special pedagogues from Autism Association and supporters/ tutors of autistic youths.

Within this activity a key specialists from the Autism Association and project team formed Employment Support Group (ESG) which was on fully disposal to employers for consultations, on-site support for transition periods etc. Thus the tutors provided to youths support on professional and internal questions while the ESG was responsible for social integration program of the people with ASD.

The employers and the staff were in details acquainted with the specific behavioral characteristics of the selected employees, their needs, abilities and limitations. The psychologists provided the tutors with concrete ways for proceeding in some behavioral situations.

A guide for work with people with ASD was translated and adapted for the needs of ICT companies – participants in the project.

Results

Eighteen persons were trained how to work with people with ASD.

People with ASD practical training

Description

When the trainees with ASD finished the training on basic ICT competences the selected employees started in-job practical trainings on the tasks which they should perform after the training.

These practical trainings continued one month. During this month the companies and employees had the opportunity to work together and find if there is a match between their demands, needs and limitations. Many of the employers developed projects for this one month which projects to provide temporary employment of persons with ASD.

Risks

Motivation and interests of the employees and trainees are different from the potential job tasks.

Both sides faced communication and behavioral difficulties.

Need of time for persons with ASD to adapt to new environment.

Results

Eight persons with ASD accomplished one month training and started work in 7 ICT organizations.



Formalizing the labor market

Description

A legal adviser, consultant on labour affairs supported the project team and employers in contracting relations with the persons with ASD. The employers have their own HR, accounting and legal departments. The information on disputable questions and details were collected by the project team and discussed among all employers – participants in the project.

Risks

Employers face legislative and normative obligations in case of hiring people with disabilities.

There is not enough legislative background which to offer flexible forms of employment (internship, part-time job for accomplishment of a project, limitations regarding part-time and full-time contract transition).

Results

Eight young people with ASD have employment contracts in 7 organizations.

Conclusions

Seven psychologists and social pedagogues prepared 20 persons with ASD for job applying. The specialists developed psychological assessment and professional development plans for 18 youths with ASD.

The specialists from Association Autism and HR specialist formed Employment support group which provide permanent support to employers and tutors and which will continue to work supporting the employers after the project finish.

The project provided individual training on ICT basic skills to 20 persons with ASD. Eight of them started work in 7 ICT organizations – 6 ICT companies and 1 university. The rest 10 will continue their training on ICT competences in the Center for social rehabilitation and integration for persons with ASD. All 18 of youths will continue to use the services of the Center after the project finish.

The project team developed a practical manual for work with persons with ASD for employers and tutors of persons with ASD.

The observations of the specialists from the Center, the families of persons with ASD and project team on involved in the project persons with ASD shows a big progress in their

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social interaction, self-confidence, motivation for work, improved learning style, ability to work on more than one task and other.

Challenges

- Persons with ASD to develop social and soft skills together with professional skills.
- Persons with ASD to progress in working discipline – time organizing, prioritizing, work loading.
- Development of marketing practice for prolongation of the model – messages to employers, identification of the staff needs, identification of HR problems in each particular company.
- Changing the families' attitudes for persons with ASD – from creation of a carrying environment to creation of a supporting environment.
- Defining and providing the necessary support to persons with ASD – neither more nor less.

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