

STARS Project final report

- *Speed Reducing Warning Lighted Placard* -



TEAM Iasi

Table of Contents

Introduction.....	3
The project final idea-from the beginning to the end.....	4
The implementation process	9
Results.....	13
Appendix.....	15

Introduction

Nowadays, the economy has evolved very much, the number of cars has increased and by default, the number of reckless drivers is bigger. Over limit speed and it's serious consequences is a problem with whom all mankind is confronting. Unfortunately there are few people who have decided to do something to stop this phenomenon.

We first heard about STARS on April 2010 when Ilyas came to our Univeristy and told us about this project. After the presentation, we analised the demands and we realised that there are things, that dosen't cost milions of euros and that don't need to be done by specialists, things that we can do to reduce speed. There are several reasons why we have decided to react. First of all, there are the accidents caused by incautious drivers, that unfortunately ended with pedestrian injuries. Secondly, the illegal races which are often "organized" in our city by irresponsible drivers, that may have the most severe consequences. STARS Project gave us the confidence that we have the power to change something, so we have decided participate to the competition.

The objectives of this project are to reduce speed by raising awareness among drivers from Vaslui City and to reduce the number of accidents caused by over limit speed . The main idea is to make them realise the gravity of driving over limit.

The project entails the installation of a two sided display, which is lit at night. The display shows an image aimed at sensitizing drivers, and together with the warning message "Pay Attention to Pedestrians!" aims to make drivers reduce speed at the site.

To implement our project we have covered several stages, starting with finding sponsors and obtaining the authorization, to mounting the placard on the field and measure than the effects that it has on drivers.

This was an experience that helped us learn many things and after wich we managed to achieve our goal: by mounting the placard on the area we succeeded to reduce the average speed with 4,3 % from 47,89 km/h to 45,83 hm/h, with a cost of 350€.

The project final idea - from the beginning to the end-

We decided that the best location we can choose to implement our project is the „Stefan cel Mare” street, in Vaslui City, because is a very circulated area both by pedestrians and by drivers who tend to exceed the speed limit. This is a high risk site where serious injuries could take place. The specific location we have chosen has a big volume of pedestrian’s traffic every day due to the fact that on one side of the street there is „Mihai Eminescu” school and on the other side of the road there is „Anghel Rugina” highschool. Also, illegal races are “organised” on that street very often (see figure 1).

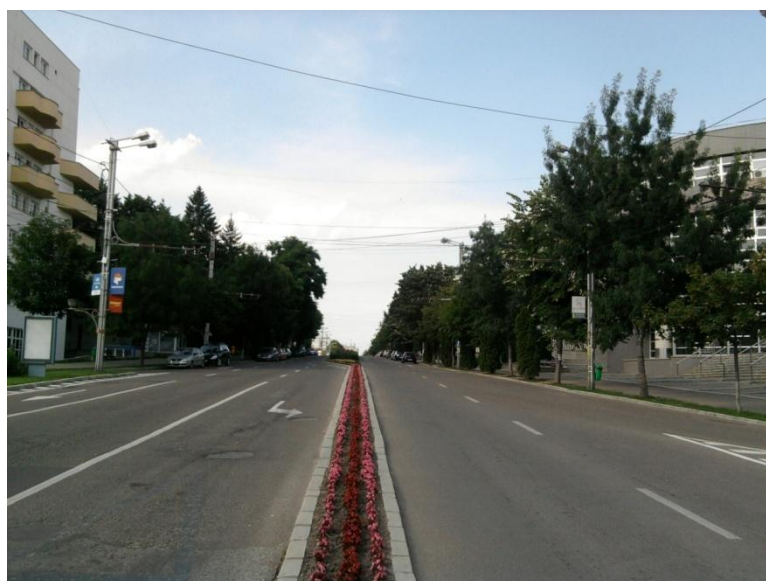


Figure 1: *Pictures of the site before implementation*

Despite the traffic volume and high number of pedestrians, drivers used to speed disregarding potential consequences. According to the Local Traffic Police, the Mayor's Office and the headmasters of the two schools, the project site is the one with the highest risk rating in the town. Unfortunately, a fatal accident occurred at the project site just two weeks before the treatment, an 8-year old pupil being seriously injured while crossing. Subsequent Police investigations revealed the driver as guilty (see figure 2).



<http://obiectivdevaslui.ro/node/14879>

Figure 2: Picture from the accident area

We had many ideas at first (see figure 3), that we thought we could implement in our city and that will reduce speed like:

- *illusion of a policeman*



- *fake holes on the road*



- *adherent road paint*



- *a special sign*



Figure 3: Our first ideas to reduce speed

After we participated to STARS Camp, where we presented our ideas and we discussed with the specialists, we learned many things. We understood that there are several factors like the environment, the culture, the education, the infrastructure or the bureaucracy from our country, that we must take into consideration, to succeed implement an idea that could have the impact we wanted to and that could really reduce speed.

When we returned to Romania, we analysed all the informations we had and we designed an idea that we presented to the local authorities.

Our idea was represented by a street banner, with the message : “Reduce Speed!” “Attention to pedestrians”(see figure 4) .



Figure 4: Street banner for reducing the speed

This was meant to be placed at 50 m before the pedestrian crossing. The Municipality told us that they thought at our idea with the banner, but there is a problem with the infrastructure. It’s not possible to place the banner there because the lighting poles that suppose to support it are not stiff enough. They told us that the idea seems to be efficient and they gave us an alternative that doesn’t rely on the lighting poles. A placard with the same image, placed on the square between the two lanes (see figure 5).



Figure 5: Placard for reducing the speed

Although the Municipality proposed us this alternative, we thought that our message could be send easier by using an image. We kept the idea of an illuminated placard, but with a change of the message, more sensible. We have chosen an image illustrating some scholars that are crossing the street. They are closely supervised by an adult that has the “STOP” sign in her right hand (see figure 6). Taking into consideration that are schools on both side of the road, this image has the purpose to attention the drivers that this is a circulated area. The pedestrians are children with ages between 7 and 18 years old, so they must drive prudently so they can stop to give priority to the people that are crossing the street, if needed. The placard is designed to raise awareness of the drivers and lead them to reduce speed.

At the beginning, the two-sided placard was designed to be illuminated from the inside. After we have consulted several companies in the field, and also talked with our sponsor, we realized that the costs exceeds our budget. As an alternative, we adopted a different illuminating system from the outside, using outdoor spots., therefore we reduced the costs with 68, 18% (from 1100€ to 350€).

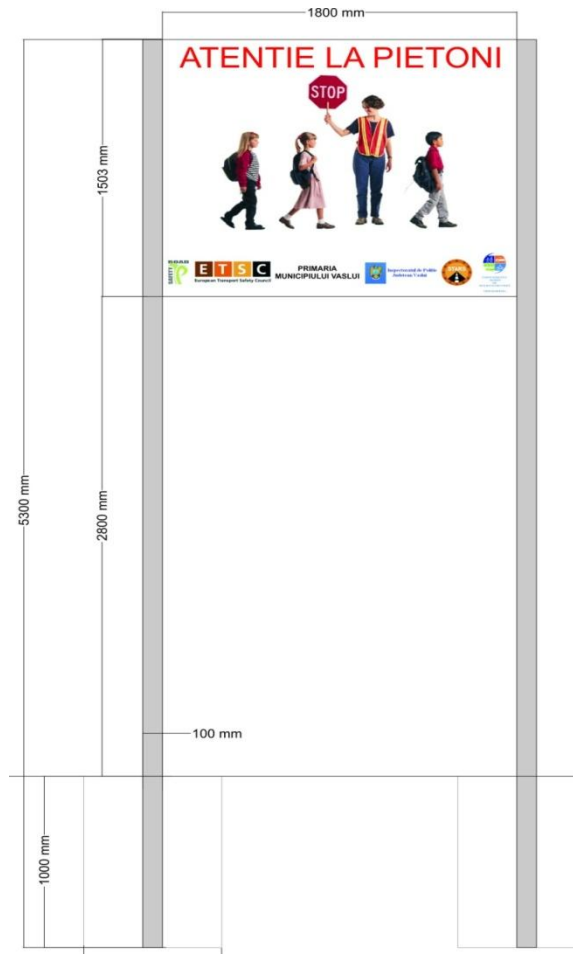


Figure 6: The final idea: Speed Reducing Two- sided Warning Lighted Placard



The advantages of our final idea are:

- great visibility from both lanes;
- it transmits better the message to the drivers than our first concept of the placard;
- students can't destroy it because the image is 200 cm from the ground so they can't reach it;
- bigger impact for drivers than first idea;
- lower costs;

The implementation process

- ⇒ The implementation process started with finding a sponsor for our project. During the STARS Camp, we had the opportunity to meet Mrs. Iustina Diaconu, GRSP country manager for Romania. She put us in touch with Mr. Mircea Iosif, road safety and traffic management expert from GRSP Romania representative. After we contacted him in **November 2010** and presented him our idea, he liked it and he told us he will offer both the financial support for implementing our project and help in obtaining the necessary authorisations.
- ⇒ After we found our sponsor, we started looking for a company that could project and execute our placard. We wanted to find a company that could do the entire process of implementation, from designing, execution, transportation to the site and mounting the placard into the ground. After several searches we met Mr Cristi Hancu from SC. PIXELART S.R.L. company that offered to help us.
- ⇒ **On 3th February 2011** we had a meeting with the headmaster of School nr. 6 „Mihai Eminescu”, Mr. Victor Ailoaiei. He was very excited with our idea and confirmed us that the chosen site is very appropriate because there are many children that cross that street every day. He also told us that, unfortunately, there was some accidents with human victims in the past caused by overlimit speed in that section of the road. Mr. Ailoaie advised us to go to the Municipality and present our idea and gave us the number of the deputy of Vaslui city, Mr. Daniel Neacsu, who is in charge with this kind of projects.
- ⇒ **On 4th February 2011** we had the first meeting with the deputy of Vaslui City, Mr. Daniel Neacsu and the spokesperson from the Municipality, Mrs. Geanina Tofan. We offered them some informations about STARS Project and about STARS Camp in Brussels, to wich we have participated in September 2010 and about our intention to react and to find a solution to reduce speed. We presented our idea with the street banner that supposed to be sustained by the lighting poles (see figure 4) and they offered us their support. Together we have scheduled a meeting with the sponsor of our project to discuss the details of our idea and about the process of implementation.

- ⇒ Meantime, Mrs. Tofan announced us that there is a problem with the infrastructure and that it is not possible to place the banner there because the lighting poles that suppose to support it are not stiff enough. We then thought to an alternative and we designed the placard for reducing speed (see figure 5) .
- ⇒ **On 24th February 2011** we had an official meeting to the City Hall with the deputy, Mr. Daniel Neacsu, the spokesperson, Mrs Geanina Tofan and with our sponsor Mr. Mircea Iosif. During the meeting, we presented our first idea, with the placard (see figure 5), wich contained the message : “Reduce Speed!” “Attention to pedestrians” . We also presented an alternative to this placard, that we thought it could have a bigger impact on the drivers. Instead of the written message, we placed a picture on the placard, that together with the warning message “Pay Attention to Pedestrians!” aims to sensitize the drivers and make them reduce speed at the site (see figure 6). The authorities agreed with our second idea, because they considered that the image we have chosen would transmit better our message.
- ⇒ After we discussed some details about the placement of the placard, on the square between the two lanes, Mr. Neacsu guide us to the Traffic Police Chief Inspector Munteanu Iulian who is able to give us the authorization for the placement of the placard. From here until obtaining the authorization for implementing our project it was a long way, full of different difficulties referring to : location on the street (in the middle of the square), visibility, safety, costs, communication between parts (Municipality, Traffic Police, Sponsor, Company who executed the project, etc.) . Firstly, Mr Munteanu told us that, due to the fact that in the middle of square there is a pedestrian crossing sign, we could not place our placard there because it will lower the visibility. So we contacted again Mr Hancu from the company who executed the work, and asked him to redesign the placard so the image could be higher than the sign (see figure 8).
- ⇒ After solving this problem, we had to deal another issue: costs were too high. To reduce the costs, we agreed with the projectant to replace the original materials with others, that could offer the same resistance to support the placard, but that were cheaper. We also adopted a different illuminating



system for the placard, from the outside, using outdoor spots (see figure 7). We managed to reduce the costs from 1100€ to 350€.

Figure 7: Outdoor spots



Figure 8: The location where the placard was installed

- ⇒ The following step involved convincing the local authorities of the efficiency of the idea and obtaining the permits from the traffic police. After we managed to fulfill all the required criteria, on **24th April 2011**, we finally obtained the authorization for mounting the placard (see appendix nr. 1).
- ⇒ The final step of the implementation process was mounting the placard to the site. On **27th April 2011** we have installed the Speed Reducing Warning Lighted Placard on the location (see figure 9, appendix nr 7).



Figure 9: The Speed Reducing Warning Lighted Placard - finished installation

After the placard was installed, on 29th April 2011 we had the mid-term evaluation visit for our project. The visit started at 10:00 a.m. to Vaslui City Hall with the mayor PAVAL Vasile, the spokeswoman TOFAN Geanina and the representative of ETSC, STERIU Mircea.

After this meeting, at 11:00 a.m. we were invited to participate at a press conference organized by the authorities, where all local media trusts have participated, to discuss about the local issues. At the beginning of the conference we had the opportunity to present our STARS project by pointing the main ideas (see figure 10). The entire press conference can be viewed on <http://www.primariavaslui.ro/video/conferinte-de-presa/viewvideo/31/conferinte-de-presa/conferinta-primaria-vasluiwmv.html> .



Figure 10: Pictures from the press conference

At the end of the press conference we went to the site, where the placard is placed. Here Mr. MUNTEANU Iulian, the Chief Inspector of The Traffic Police was also present and we had a short discussion about the necessity of implementing our project in that area.

One of our goals was to find a company which could help us implement our project in every step, including graphics, materials, transport to the site, execution, etc. The total costs of the project were 1783.74 RON, the equivalent of 350 € (see appendix nr. 3).

Results

Prior to the treatment of the site through the installation of the display, we talked with the Traffic Police Chief Inspector to send a team on the ground to measure the situation (speeding and yielding to pedestrians in the crossing area). We have received the data from Traffic Police as a MS EXCEL document. Based on the data we received, we made a graph illustrating the values recorded on the first speed measurement in the treated area.

Therefore, first measurement was made one month before implementation, on 25 March 2011. The action took place during 90 minutes, from 12:00 a.m. until 13.30 p.m. The analysis included a total of 97 cars and the results were really alarming (see figure 11).

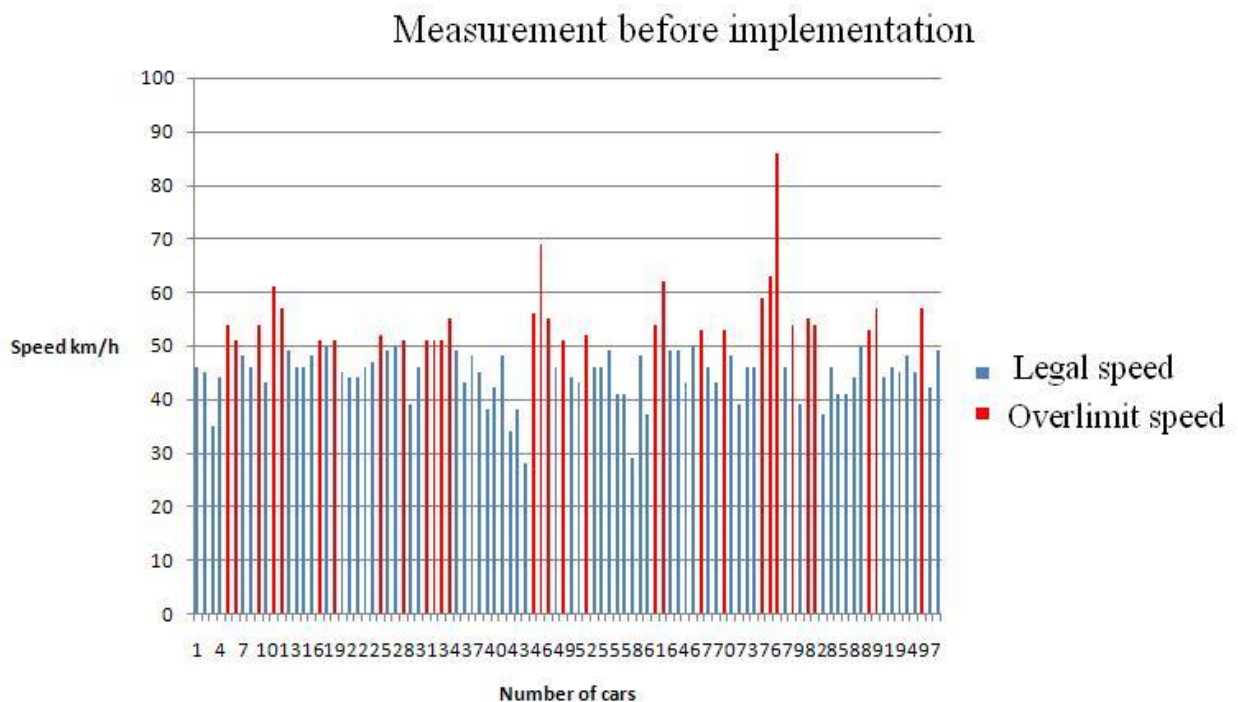


Figure 11: Speed measurement in the treated area before implementation

The following results were obtained:

- the average speed was **47,89 km/h**;
- number of drivers who did not gave priority to pedestrians:
 - 9** drivers with over limit speed;

-2 drivers with legal speed;

Second measurement was made two weeks after the placard was placed on the site. The action took place during 90 minutes, from 12:00 a.m. until 13.30 p.m. on 11 May 2011. The analysis included a total of 102 cars (see figure 12).

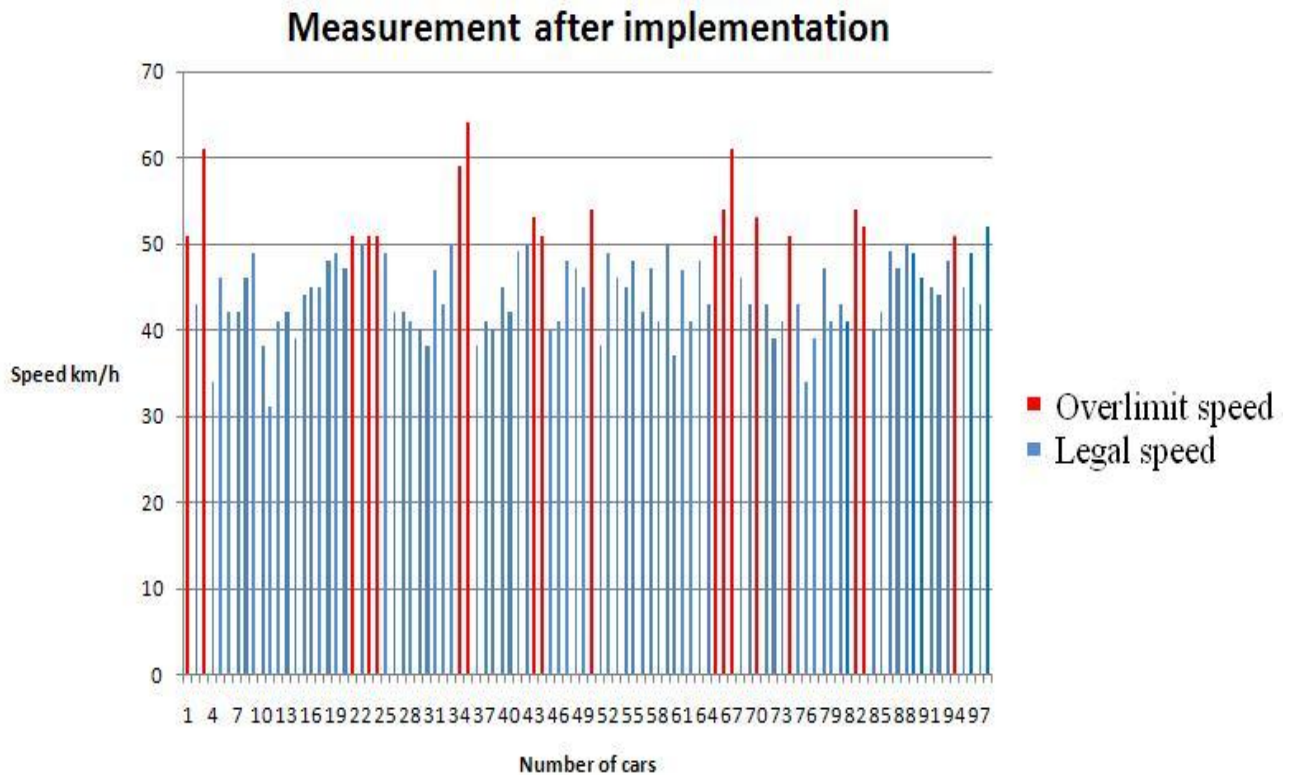


Figure 12 : Speed measurement in the treated area after implementation

In this case we obtained the following results :

- the average speed was **45,83 km/h**;
- the number of drivers who did not gave priority to pedestrians:
 - **4** drivers with over limit speed;
 - **1** driver with legal speed;

By implementing our project we succeeded to :

- **reduce** the average *speed* with **4,3 %**;
- reduce the number of drivers that did not gave priority to pedestrians with **54,54 %**;

In conclusion, the analysis of the speed measurement shows that the installation of the Speed Reducing Warning Lighted Placard had a positive effect, raising awareness of the drivers and lead them to reduce speed.

Taking into account our limited budget, we consider that we have achieved our goal.

We succeeded to implement our project thanks to:



PRIMARIA MUNICIPIULUI VASLUI



Inspectoratul de Poliție
Judetean Vaslui



Appendix

Appendix nr. 1 The authorization for mounting the placard


ROMANIA
JUDETUL VASLUI
PRIMARIA MUNICIPIULUI VASLUI
Str. Spiru Haret nr.2 , tel. 0235/310999, 0235/313946 , fax 0235/315946
Email:pmv@primariavaslui.ro

Nr. 9924 din 14.04. 2011


C A T R E ,

VLASA NARCIS SEBASTIAN
mun. Vaslui

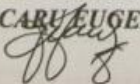
Avand in vedere adresa dumneavoastra , inregistrata la Primaria Municipiului Vaslui cu nr. 9924 din 14.04.2011, va comunicam avizul nostru favorabil pentru amplasarea panoului publicitar privind siguranta circulatiei in municipiul Vaslui, in scuarul de pe mijlocul strazii Stefan cel Mare , din fata scolii generale nr. 6, in imediata apropiere de trecerea de pietoni, cu conditia obtinerii avizului de la politia rutiera.


PRIMĂR
Ing. VASILE PAVĂL

SECRETAR ,
Jrs. LACATUSU EDUARD



DIRECTOR A.T.D.U
Ing. TABACARU EUGEN



int./red. T.E.-2ex.

Appendix nr. 2 Guarantee certificate for the placard from SC PIXELART SRL

SC PIXELART SRL Vaslui

Stefan cel Mare, 153

J37/98/2000

Ro12964220

Certificat de garantie

Produsul: PANOUL AFISAJ PIETONI

Este garantat in executie /montaj de catre SC PIXELART SRL VASLUI pe o perioada de 12 luni.

NU se acorda garantie IN CAZUL :

- Defectelor cauzate de exploatarea defectuoasa, calamitati naturale, vandalism, alte cauze in afara celor strict de productie/montaj.
- Consumabilelor (cabluri, becuri, startere, drosere).
- Pierderii prezentului certificat sau a facturii.

Constatarea defectelor, a naturii si cauzelor acestora este facuta de reprezentatul furnizorului, la locul instalarii panoului.

Beneficiar ING TEHNOPROIECT

Adresa: Bucuresti, Cod fiscal RO17782840, Reg. Com J40/15737/2008

Data livrării 08.04.2011

Data expirării garanției 08.04.2012

FURNIZOR



Appendix nr. 3 Invoice for the execution of the work

SC PIXELART SRL

Furnizor: **SC PIXELART SRL**
 Nr. ord. reg. com./an: **J37/98/2000**
 C.I.F.: **RO12964220**
 Sediul: **str. Stefan cel Mare, 453 Vaslui**
 CS: **200 RON**
 Județul: **RO19RZBR0000060011625471**
 Contul: **RAIFFEISEN BANK VASLUI**
 Banca: **RO59TREZ8565069XXX001055**
 Capital social: **TREZORERIA VASLUI**

FACTURĂ FISCALĂ

Nr. facturii: **207**
 Data: **02.09.2011**
 Nr. av. de însoțire a mărfii: **(dacă este cazul)**

Seria nr.:
 Cumpărător: **ING. TEHNO PROIECT**
 Nr. ord. reg. com./an: **140/15737/2008**
 C.I.F.: **RO17782340**
 Sediul: **Bucuresti**
 Județul: **I**
 Contul:
 Banca:
 Cota T.V.A.: **24** %

Nr. crt.	Denumirea produselor sau a serviciilor	U.M.	Cantitatea	Prețul unitar (fără T.V.A.) - lei -	Valoarea - lei - 5(3x4)	Valoarea T.V.A. - lei - 6
1.	Panou sticlă 2 file iluminat buc cu spălare		1	1438,50	1438,50	345,24
				Total din care: accize	1438,50	345,24
				Semnătura de primire	Total de plată (col.5+col.6)	
					1783,74	

Semnătura și ștampila furnizorului: **SC PIXELART SRL**
 Date privind expediția: **Mos. I. Ilinco**
 Numele delegatului: **Mos. I. Ilinco**
 B.I./C.I. seria **R.R.** nr. **453258** eliberat(ă)
 Mijlocul de transport nr.
 Expedierea s-a efectuat în prezența noastră la data de ora
 Semnăturile

Cod 14-4-10/A, tipărit de BIBLIOPROD S.R.L. Piatra Neamț, tel: 0233/219.720

Appendix nr. 4 Letter of recommendation ETSC



Municipality of Vaslui

Brussels, 22nd October 2010

Dear Sir/Madam,

I am writing to you to strongly support and recommend the proposed road safety and speed management project co-led by Narcis Sebastian Vlass and Iuliana Maria Gavril, students at the Faculty of Civil Engineering "GH Asachi" and Faculty of Economics "Al. I. Cuza"

They are both part of the 25 engineering/economics students selected in 8 European countries participating in the STARS (Students Acting to Reduce Speed) project. STARS is a 18-month project led by ETSC¹ which aims to mobilise research on speed management and demonstrate that excessive and inappropriate speed on roads can be reduced by existing and/or innovative measures. Indeed, research shows that road safety design for safer roads and the speed management, particularly on sites at risk, reduce effectively and sustainably the number, frequency and severity of road accidents.

The STARS project focuses on speed management and road safety through specific actions on infrastructure and communications led by future engineers and communication experts. We firmly believe that speed management is the field of road safety, where the reduction of accidents is the most important, sustainable and achievable within a relatively short and relatively low cost.

Students involved in 'STARS' were selected among many applicants for their motivation, commitment, ideas and measures that they have presented. Narcis and Iuliana are also the only Romanian participants. They followed a complete seminar in Brussels on speed management and road safety by many experts, associations, institutions and companies working on speed driving.

Narcis and Iuliana identified a number of actions relevant to relevant to treat speed in Vaslui and we support the ideas and measures they wish to present. Based on their results, the best students will be invited to Brussels to attend a ceremony and present the results to scientists, policy makers and private companies. These events offer excellent opportunities for all stakeholders to learn about best practices and experiences in road safety campaigns based on scientific expertise in Europe.

I thank you in advance for the attention and time you will dedicate to their project and its implementation.

Yours faithfully,



Mr. Antonio Avenoso
Executive Director of ETSC

¹ ETSC is the international independent non-profitmaking organisation dedicated to the reduction of the number and severity of transport crash injuries in Europe. ETSC represents 43 organisations from across Europe under one unique umbrella promoting science-based transport safety measures at EU level. ETSC provides an impartial source of expert advice on transport safety matters to the European Commission, the European Parliament, and Member States. It maintains its independence through funding from a variety of sources including membership subscriptions, the European Commission, and public and private sector support for various activities.

Appendix nr. 5 Letter of recommendation from GRSP



**PARTENERIATUL ROMÂN DE
SIGURANȚĂ RUTIERĂ**

str. BISERICA AMZEI, nr. 29, SECTOR 1, BUCUREȘTI
Telefon +40.723.587.460
email: mircea.iosif.tp@gmail.com

17 martie 2011

13:45

Catre: Dl. Iulian Munteanu – Inspector Sef SPR Vaslui

Stimate Domn,

Ne adresam dumneavoastra in dorința de a va comunica sustinerea noastra pentru echipa alcatuita din Vlasa Narcis Sebastian de la Universitatea Tehnica „Gh. Asachi” si Gavril Iuliana Maria de la Universitatea „Al. I. Cuza” din Iasi, participante la proiectul STARS sub egida ETSC.

In acest context va adresam rugamintea de a fi asigurat sprijinul acestei echipe tinere si entusiaste si din partea institutiei Dumneavoastra cu date statistice despre circulatia rutiera si pietonala, avize si acorduri necesare pentru materializarea proiectului, cat si alte activitati specifice Politiei Rutiere, daca va fi necesar.

Cu respect,

Mircea Iosif
Coordonator Național al
Parteneriatului Român de Siguranță Rutieră



Appendix nr. 6 Letter of recommendation from the University



MINISTERUL EDUCAȚIEI, CERCETĂRII, TINERETULUI ȘI
SPORTULUI
Universitatea Tehnică „Gheorghe Asachi” din Iași
FACULTATEA DE
CONSTRUCȚII ȘI INSTALAȚII
Bulevardul Prof. D. Mangarescu nr. 43, 700050, Iași
Tel: 40 232 254 636 Fax: 40 232 233 368
Url: www.ce.tniasi.ro E-mail: documat@ce.tniasi.ro



RECOMANDARE

În cadrul Organismului internațional – European Transport Safety Council au loc acțiuni în programul STARS – Students Acting to Reduce Speed, cu participare studențească din 8 țări europene, la care România participă și cu echipa de studenți, NARCIS SEBASTIAN VLASĂ – Universitatea Tehnică „Gheorghe Asachi” din Iași, Facultatea de Construcții și Instalații și IULIANA MARIA GAVRIL, Universitatea „Al.I. Cuza” din Iași, Facultatea de Economie și Administrarea Afacerilor, ambii studenți având domiciliul stabil în Vaslui.

Întrucât participarea lor în luna septembrie la un curs de instruire la Bruxelles în cadrul proiectului STARS a fost recunoscută și apreciată prin proiectul propus a fi implementat la nivel local, respectiv în municipiul Vaslui, vă adresăm rugămintea de a le acorda sprijinul dumneavoastră în a transpune propunerile lor în rezultate și a demonstra o dată în plus că atitudinea preventivă poate deveni eficientă pe termen lung în oricare comunitate locală, inclusiv în România.

Menționez că studentul NARCIS SEBASTIAN VLASĂ este în anul IV la programul de licență Inginerie Civilă cu predare în limba engleză, rezultatele lui clasându-l în primii 10% din promoția anului 2010. Este entuziasmat față de noutățile științifice, acceptă și poate anticipa schimbările și măsurile necesare unei scăderi a riscului în activitățile ingineresti, răspunde pozitiv și are inițiativă în cadrul comunității studențești din care face parte.

În plus față de acestea, mobilizarea și valorificarea în proiect a cunoștințelor sale tehnice, sociale și economice pentru a reduce riscul accidentelor rutiere în Municipiul Vaslui a fost apreciată la toate nivelurile, în care sens sprijinul dumneavoastră va aduce comunității orașului beneficii și vizibilitate de acțiune în România și Europa.

Iași, 22 noiembrie 2010

Cu considerație,

Secretar Științific,
Conf.dr.ing. Irina Lungu



Appendix nr. 7. Pictures from the implemenation process

