

## **THE CONCEPT AND ADVANTAGES OF DIGITAL SIGNATURE**

Nowadays, computer technologies have reached so large scale that delivering documents and valuable papers through the Internet is a common practice. But how to be sure that you are the owner of this document? The answer is quite simple – the usage of digital electronic signature. Electronic Signature (ES) – is a special props of the document that allows to establish the absence of information distortion in the electronic document since the formation time of ES and confirm affiliation of the signature to its owner. The value of the props is the result of a cryptographic transformation of the information. The ES owner is a physical person, who got ES certificate on his name in the Certification Authority. Every certificate owner must have two keys for digital signature: closed (personal) and opened (public). The private key is used by the signatory for the application of electronic signature in the data. This key is confidential; it is recorded onto certain media (disk, flash drive, card and so on), which is available only to the owner of ES. Otherwise, attackers can take advantage of this key. Therefore, the owner of the electronic signature is responsible for the fact that only he uses his private key. This is because if in case of necessity of verifying signatures on paper, handwriting analysis can be carried out, but the electronic signature cannot be verified in this way, since data is in electronic form. The public key is used to verify the signature. It is available to all people interested in checking the signature of the private key owner.

The benefits of electronic signature usage are:

– A comprehensive resource conservation and improvement of business processes in the enterprise. Keeping electronic document management in the enterprise significantly reduces the volume of accounting records, saves time of employees and costs of the company, related to contracts making, registration of payment documents, as well as their transfer. Documents can be signed with digital signature and transmitted to the destination within seconds;

– Ease and convenient usage. Using a digital signature is surprisingly simple and accessible to anyone, regardless of knowledge level of PC, education and occupation;

– Confidentiality of information. Confidentiality of information (the impossibility of access for people who do not have the private key) is provided by reliable cryptographic transformations;

– Information security. Safety of electronic signature usage is guaranteed by the fact that reliable tools which are used for electronic signature, are examined in the State Service for Special Communications and Information Protection of Ukraine;

– Conducting business relationship. The use of digital signature significantly accelerates the realization of any commercial operations and eliminates the need for additional meetings and hours of negotiations.

With the right approach, EDS ensures the accuracy and integrity of the information contained in the document, and the electronic document ensures that the signatory has the right to sign the document, and agrees with that he signs. Paper media do not provide such useful tools. Although, there is no 100% guarantee that hackers and attackers will not steal your key and make illegal operations, but computer technology is constantly developing and maybe in the near future the reliability of digital signature will be much higher.

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## **ROAD TRANSPORT IMPACT ON THE ENVIRONMENT AND IDENTIFYING KEY AREAS TO IMPROVE ITS ENVIRONMENTAL SAFETY**

In the conditions of modern economic development, road transport plays an important role in ensuring economic growth and social development. Road transport is one of the most important elements to ensure the transport system of the country. However, the development of road transport in Ukraine faces challenges that require complex solutions at the state level. Thus, the environmental problems associated with the use of the vehicles are relevant both for Ukraine and for all the countries in the whole.

At the beginning of the second half of the twentieth century a progressive motorization of society became. Development of Road Transport has identified the following distinct but contradictory trends: on the one hand, a high level of motorization was achieved, reflecting the technical and economic potential of society, that facilitated meeting the social needs of the population, and on the other hand, this development caused increasing negative impact both on society and on the environment. This negative effect leads in turn to disruption of the ecological balance in biospheres' processes. In spite of the positive trend convenience, it has led to the emergence of new threats to the vital interests of the individual, society and state, and subsequently has acquired real-environmental threat for life.

Based on the fact that over the years the number of road vehicles has been steadily increased, this topic is relevant, thereby it requires solving of problems about impact on the environment and public health.