Electronic Signature Instruction

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2. Introduction

An electronic signature is data in electronic form, which together with other data to which they have been attached or with which they are logically associated, are used to identify the person who is signing. Electronic qualified signature (so-called secure electronic signature) can be obtained at qualified institutions providing certification services. In the process of submitting a qualified signature, several elements are used that form the so-called secure environment: cryptographic card, reader, software, qualified certificate, certificate issuer (entered into the register of authorized entities of the National Certification Center). A qualified certificate is used to submit a qualified electronic signature. Such a certificate is issued to a specific person and certifies the identity of that person, which in the legal world results in the fact that an electronic signature made using such a certificate is equivalent to a handwritten signature. You can give a power of attorney to sign documents, whereas an authorized person must have a qualified certificate with which to sign it under the appropriate documents.

In the Purchasing System environment, a qualified electronic signature is used for:

- signing of offers / applications forms in public proceedings;
- sign confirmation of withdrawal of the application / offer;
- sign confirmation of bidding increments (if such requirement is defined by the auction operator);
- signing the Single European Order Document and attachments to applications / offers (depending on the Contractor's decision, because these documents may be signed locally, ie at the Contractor's user's workstation, and then attached to the Purchasing System);
- signing answers to questions asked by the Employer to the Contractor (if he has defined such a requirement).

The above-mentioned activities take place from the level of an internet browser, and their correct implementation is related to the prior installation and configuration of the electronic set and Internet browser. Mention must also be made of the necessity for the user's workstation to meet the technical requirements.

This document contains the requirements of the workstation, the configuration of the Google Chrome / Microsoft Edge / Mozilla FireFox browser, and the instruction to sign the auction increment.

3. Workstation technical requirements

Minimal hardware and software requirements for using an electronic signature on Purchasing System are detailed below:

1) A PC / Apple computer with access to internet

2) Installed operating system:

• Windows 7 / Windows 8.1 / Windows 10 / Windows 11 / MacOS in a version supported by the manufacturer

3) Web browser:

• Mozilla Firefox in a version supported by the manufacturer.

• Google Chrome in a version supported by the manufacturer

• Microsoft Edge in a version supported by the manufacturer

• Safari in a version supported by the manufacturer

that allows to use session cookie files and supports TLS 1.2 or higher encryption;

4) Java runtime environment version 8u202 or newer installed on the computer. For 32 bit operating system, 32 bit Java Runtime Environment required. For 64 bit operating system, both 32 bit and 64 bit Java Runtime Environment required. Recommended version Java 8u202. Using both Oracle Java and AdoptOpenJDK is possible (AdoptOpenJDK preferred).

5) Internet connection: min. 512 Kbps per computer (recommended broadband internet connection);

6) Essential software and hardware used in signing the electronic signature:

- middleware software that uses PKCS#11 interface (version 2.01 or higher)
- cryptographic card reader compliant with PC/SC specification.
- Cryptographic card compatible with any card reader compliant with PC/SC specification.
- A Hardware Security Module device compatible with PKCS#11 interface

7) In the case of electronic signature on a physical medium - A cryptographic card reader connected or embedded in the computer issued by the issuer of the certificate used by the Contractor (the card present in the reader when the signature is made), or a Smart Card Reader / Omnikey device;

8)	in the case of cloud-based electronic signature – make sure the certificate is authenticated in the user's session at the time of signing (e.g. by launching the application supplied by the signature's issuer and entering the private key activating the certificate);

9)	Installed on the workstation current drivers for the cryptographic card reader (manufacturer websites, software installed dedicated to the signature). For cloud-based signature, software supplied with the signature installed;

10)	A qualified certificate installed on a computer on which the Contractor will log into the account (for Windows operating system, the certificate must be visible in the Windows Certificate logical store named "Personal").

11)	For Google Chrome, Microsoft Edge and Mozilla Firefox browsers, installed a dedicated extension „Podpis elektroniczny Szafir SDK" and installed „Szafir Host" application.

Before attempting to place the tender or take part in electronic auction making use of electronic signatures, it is adviced to check the configuration of electronic signature on the device that will be used to place the tender or take part in electronic auction.

Recommended version of the JAVA runtime environment can bo downloaded from here:
https://www.oracle.com/pl/java/technologies/javase/javase8-archive-downloads.html

The current version of the JAVA runtime environment can be downloaded from here:
https://www.java.com/pl/download/
https://adoptium.net/temurin/releases/?version=8

You can check your version in accordance with the instructions available at the link:
https://www.java.com/pl/download/help/version_manual.xml

The purchasing system enables the submission of a qualified electronic signature with the use of qualified certificates provided by one of the suppliers accredited by the Ministry of Digitization, among others Eurocert, KIR, PWPW or CERTUM by Asseco. The full list can be found at https://www.nccert.pl/tsl.htm. Certificates issued by qualified entities in European Union countries are also valid.

The installation procedure may vary depending on the signature provider, but three main aspects can be distinguished:

- Installation of the software and appropriate drivers (provided with the certificate / update), eg CryptoCard Suite;

- Inserting the card into the reader in order to verify the signature operation (eg whether active);

- Installing the appropriate certificates (it is worth checking if the certificates are available in the Windows warehouse).

Detailed instructions related to the installation and launch of electronic signatures are available on the websites of individual suppliers (possibly provided with the signature and software as a component of the set).

Information about the installation of an electronic signature on the example of CERTUM:

https://www.certum.pl/pl/wsparcie/cert_wiedza_podpis_elektroniczny_instalacja_zestawu_certum/

ATTENTION - due to restrictive security policies applicable in some organizations and the resulting restrictions imposed on corporate users' workstations in order to correctly implement the functionality of electronic document signing in the Purchasing System environment, it is recommended in case of technical problems to contact local technical support of the IT department which will have wide possibilities of configuring the browser (launching the browser as an administrator) and a workstation due to administrative rights.

4. KIR Szafir

The functionality of the electronic signature is implemented via the KIR Szafir applet. This is a dedicated extension that needs to be installed in the browser. If the extension is not installed, the system will automatically initiate the installation / update of the component - the condition is for the user to start the action that starts the signature procedure in Purchasing System, e.g. clicking "Submit offer" or "Send" (answer).

The extension can also be installed without using the automatic mechanism from Purchasing System . If there are problems with the automatic component update, it can also be downloaded manually. Depending on the browser, the applet is available under various Internet addresses, eg extensions for the Mozilla FireFox browser can be downloaded from here:

https://www.elektronicznypodpis.pl/download/webmodule/firefox/szafir_sdk_web-0.0.10-anfx.xpi

Image 1 Szafir KIR console icon launched in the Mozilla FireFox browser

If the current version of the applet is installed in the browser, it will be launched from the browser level after the user initiates the signature procedure in Purchasing System   (eg clicking the "Submit offer" button.) Console icon Szafir KIR will appear in the browser bar (Fig.1)

NOTE - Some of the web browsers use the JAVA runtime environment to run the applet. An old version of the JAVA runtime environment or an unactivated JAVA plugin can cause the Szafir applet to not start or not work correctly.

It should also be noted that the browser on which the signature procedure will be launched (so the KIR Szafir applet) must be obligatory to have the pop-up blocking disabled (thread presented in the further part of the manual).

In the case of the Google Chrome / Microsoft Edge / Mozilla FireFox browser (from version 52), the installation of additional Szafir Host application providing electronic signature functions is also a

necessary element of the proper functioning of the signature. The Szafir Host installer can be downloaded from the following locations (depending on the version of Windows):

- Windows 32 bit:

http://www.elektronicznypodpis.pl/gfx/elektronicznypodpis/pl/defaultstronaopisowa/146/1/1/szafir host_x86.msi

- Windows 64 bit:

http://www.elektronicznypodpis.pl/gfx/elektronicznypodpis/pl/defaultstronaopisowa/146/1/1/szafir host.msi

The Szafir Host installation is also automated, i.e. the user, by executing the action starting the signature procedure, will call a window that will carry it out by downloading and installing the extension.
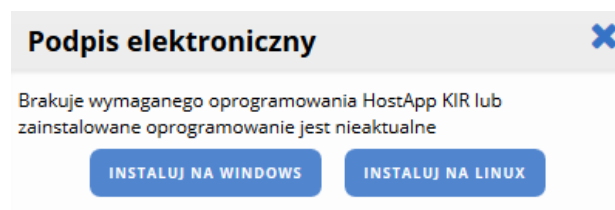
Image 2 The "Electronic signature" window initiating the Szafir Host installation

After installing the Szafir SDK extension and the Szafir Host application, reload the current browser page (refresh). If the extension and the application have been installed correctly and the user continues to diagnose problems while working with the signature, check whether the browser includes the szafir SDK extension and whether the JAVA runtime environment is installed on the computer.

5. Configuring the Mozilla FireFox browser

The proper operation of the KIR Szafir control requires installation of two dedicated elements on the user's workstation - an extension to the SDK Szafir KIR browser and the Szafir Host application. Despite the automation of the process of downloading and updating both of these elements (presented in Chapter 8), if necessary, you can download both components manually via the links listed in Chapter 4 of this manual.

5.1 Blocking pop-up windows

The element that may be a problem during the implementation of the electronic signature in the Purchasing System environment (especially the update / installation of components required for its proper operation) is the blocking of pop-ups. To turn it off, click on the ≡ icon, then select "Options". The next step is to go to the "Privacy and security" section. In the „Permissions" section use „Exceptions" buton to the right of „Block pop-up windows" checkbox to add webpage „https://swpp2.gkpge.pl" to exception site list.
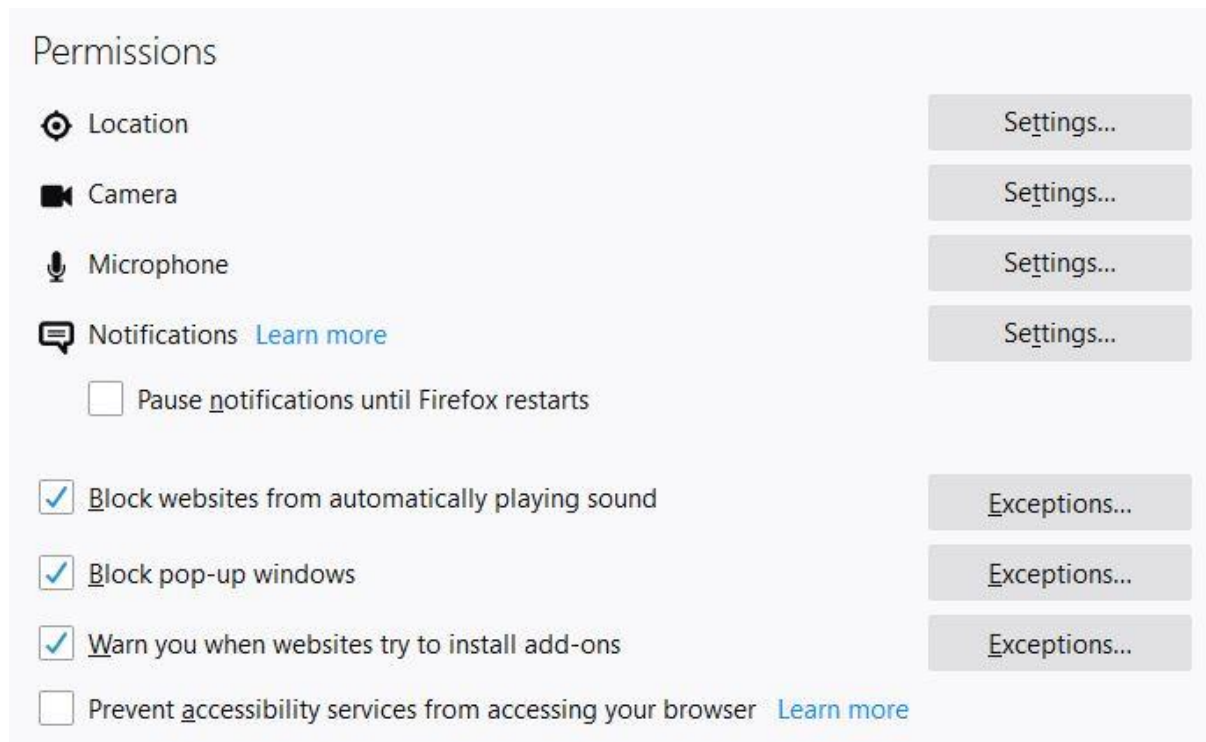
Image 3 Disable pop-up blocking (Mozilla FireFox)

6. Configuring Google Chrome browser

The proper operation of the KIR Szafir control requires installation of two dedicated elements on the user's workstation - an extension to the SDK Szafir KIR browser and the Szafir Host application. Despite the automation of the process of downloading and updating both of these elements (presented in Chapter 8), if necessary, you can download both components manually via the links listed in Chapter 4 of this manual.

6.1 Blocking pop-up windows

The element that may be a problem during the implementation of the electronic signature in the Purchasing System environment (especially the update / installation of components required for its

proper operation) is the blocking of pop-ups. To turn it off, click the   , icon, then go to „settings". Next go to section „Privacy and security", then „Site settings" and finally „Pop-ups and redirects"
There, in „Allowed to send pop-ups and use redirects" section use Add buton to add „https://swpp2.gkpge.pl" website.

7. Configuring Microsoft Edge browser

The proper operation of the KIR Szafir control requires installation of two dedicated elements on the user's workstation - an extension to the SDK Szafir KIR browser and the Szafir Host application. Despite the automation of the process of downloading and updating both of these elements (presented in Chapter 8), if necessary, you can download both components manually via the links listed in Chapter 4 of this manual.

7.1 Blocking pop-up windows

The element that may be a problem during the implementation of the electronic signature in the Purchasing System environment (especially the update / installation of components required for its

proper operation) is the blocking of pop-ups. To turn it off, click the ⋮ , icon, then go to „settings". Next go to section „Cookies and sites permissions", then „Pop-ups and redirects". There, in „Allow" section use Add buton to add „https://swpp2.gkpge.pl" website.

8. Installation and launch of the Szafir KIR control in the browser

8.1 Step 1

In order to install and run the KIR Szafir control, the signature procedure should be started from the Purchasing System level using one of the dedicated actions, eg "Submit an offer". The message "Wait for the electronic signature to be activated" will appear on the screen.

Image 4 A message dedicated to the installation of the KIR Host App

To install Szafir Host for Windows click on the "Install on Windows" button.
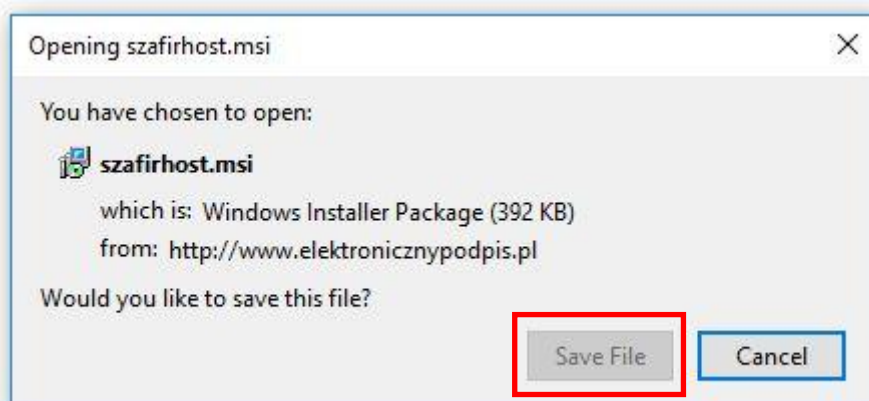
Image 5 Information about downloading the Szafir Host installer

After the download is completed, the saved file can be opened. Click on the "Save file" button and wait until the end of the installation.

8.2 Step 2

The file with the Szafir Host (sabinirhost.msi) installer should be opened. You may receive an alert "Run executable file". In this case, press "Ok" on the alert.
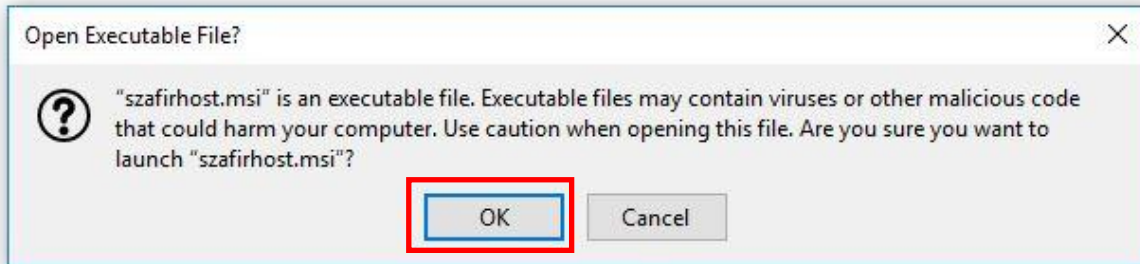
Image 6 Alert about the executable file

Another possible element is displaying a pop-up window with security information. To complete the procedure, click on the "Run" button. The action will launch the Szafir Host application installer.
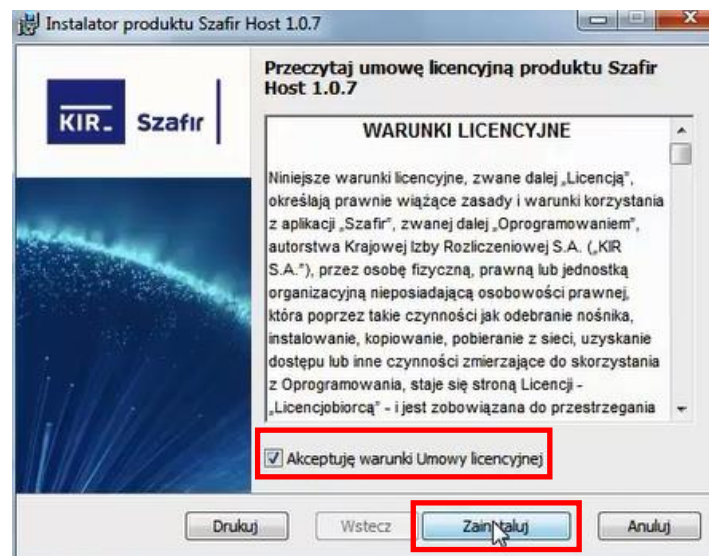
Image 7 Szafir Host application installer

To install the application, accept the terms of the license agreement, and then click on the "Install" button. Wait for the component installation to finish. Instructions on the screen will inform you about the necessary steps - "Finish" the installation.
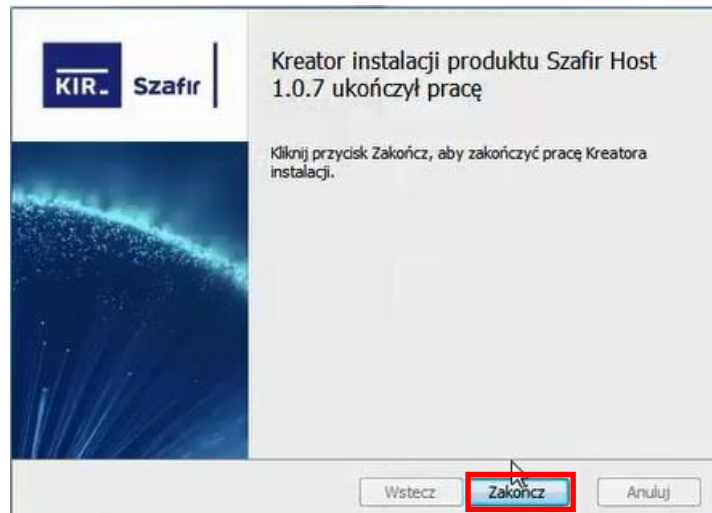
Image 8 Completing the successful work of the Szafir installer

8.3 Step 3

After installing the Szafir Host application, the Szafir SDK component will be automatically installed and updated. Progress bars are shown in the figure below.
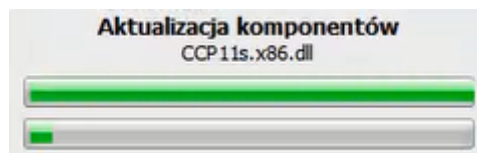
Image 9 Components update

Wait for the process to be successful. After it is finalized, please note that a new extension has appeared in the browser's address bar - Szafir KIR console.

Image 10 Extension Szafir KIR

Completing the installation of components will allow the application of Szafir to be automatically launched, with the help of which documents can be affixed with documents (see Fig. 1 Szafir KIR application launched).

9. Electronic signing of auction proceedings

The ordering party has the possibility to parameterize the auctions in such a way that each bid is connected with the obligation to electronically sign the confirmation of increment.

9.1 Finding the auction and launching the bidder's console

List of auctions, to which the given Contractor was invited, can be found in the "Contractor Portal" section and the link "My auctions".
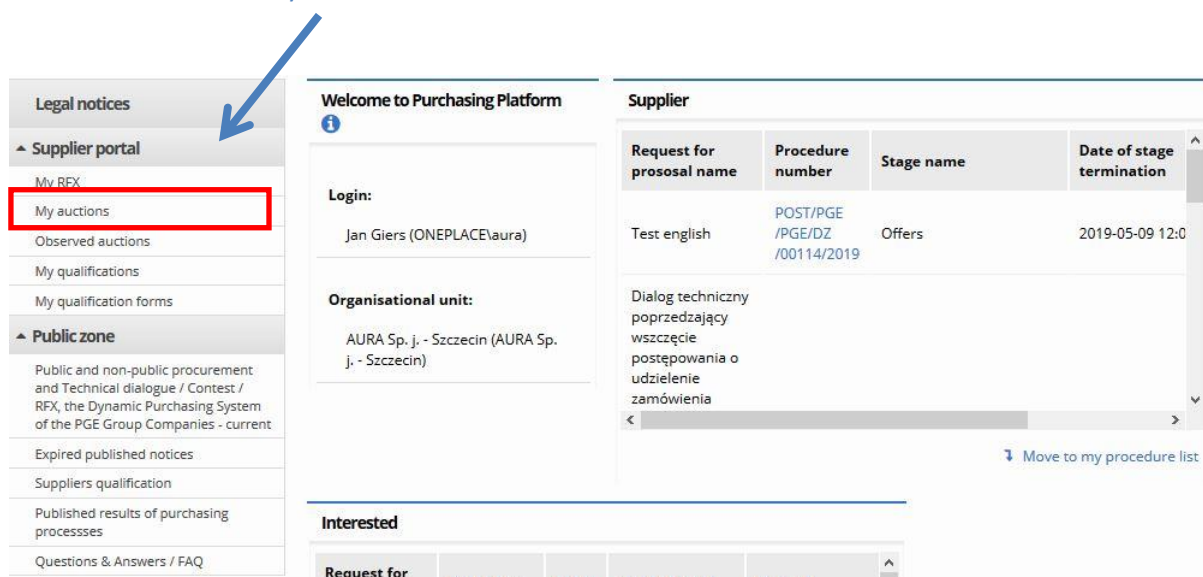
Image 11 Section "Contractor Portal" and reference "My auctions"

Participation in the auction takes place via the bidder's console. To take part in the auction, click on the auction with the status "Open" or "Future" (visible in the column "Status") with the right mouse button and select the option "Bidder's console".
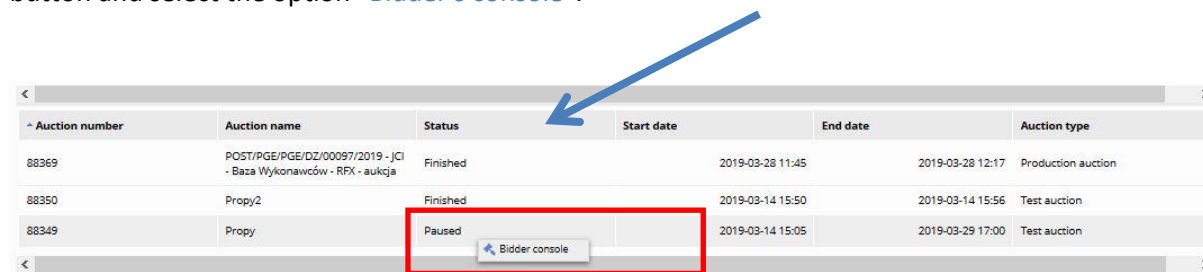
Image 12 Go to the bidder console

Available auction statuses are "Future" (published, but unopened), "Open" (you can take part in them), "Paused", "Finished" and "Accepted".

9.2 Bidder's console and submission of an auction advance

Image 13 Tender console

To place an offer, first enter it in the appropriate place, and then click on the "Submit offer" button. Clicking the button will start the electronic signing procedure. The functionality of the electronic signature is implemented via the application Szafir KIR, and the process itself will take place in one of two ways:

1) If this is the first launch of a signature from a given browser, the situation will be adequate to the description contained in chapter 8.
2) If the browser has already been used for electronic signature, then the Szafir applet will be launched (after the potential update, which will happen automatically).

9.3 Making Electronic Signature in Szafir KIR

The variants presented in sub-chapter 9.2 will end with the launch of the Szafir KIR application, which screen was presented as follows. In the upper part of the screen, a preview of the document is presented (by default in "Formatted" mode). In this case, the content of the document that will be signed electronically consists of a summary of the auction increment.

Image 14 Szafir KIR application launched

Signing is started via the "Sign" button. The next step is the user's authentication with a PIN number. The correct number entered will sign the document.

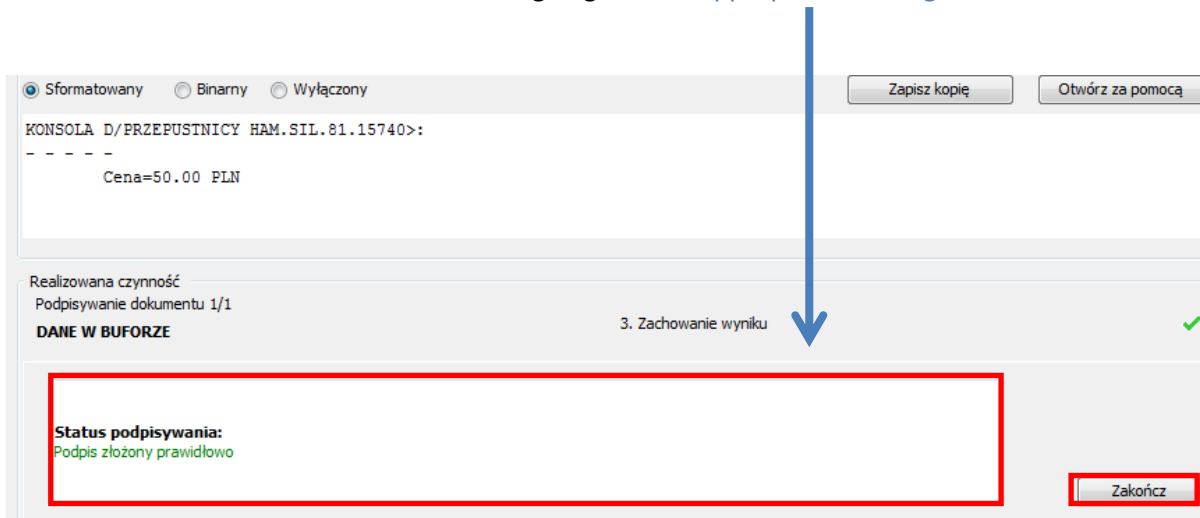You will be informed about the successful signing with an appropriate message.

Image 15 Message about successful signing

The ending of the signing process is possible thanks to the "Finish" button.

It is also worth mentioning that from the level of Szafir KIR control, the user has the option to change the presentation mode of the document. By default, it is displayed in rich mode, but the buttons are located in the upper right corner of the control:
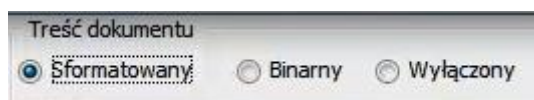
Image 16 Presentation modes of document content

The user signing the document also has the option of saving a copy of its contents, which is an option:

Image 17 Saving a copy of a signed document

10. Images list