

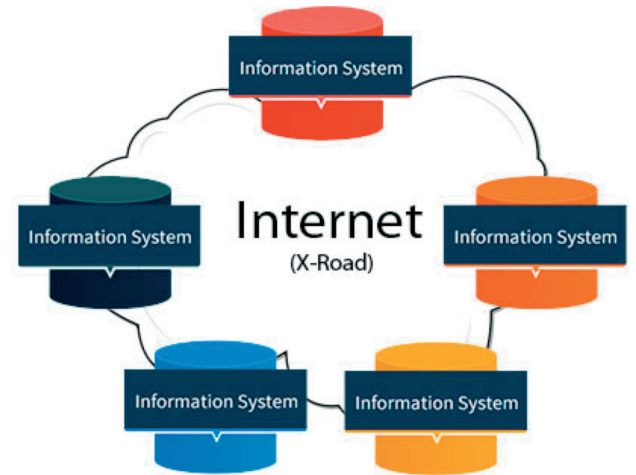


# X-ROAD FACTSHEET

## WHAT IS X-ROAD?

The data exchange layer X-Road is a technical and organisational environment that enables secure Internet-based data exchange between the state's information systems. The X-Road allows institutions/people to securely exchange data as well as to ensure people's access to the data maintained and processed in state databases.

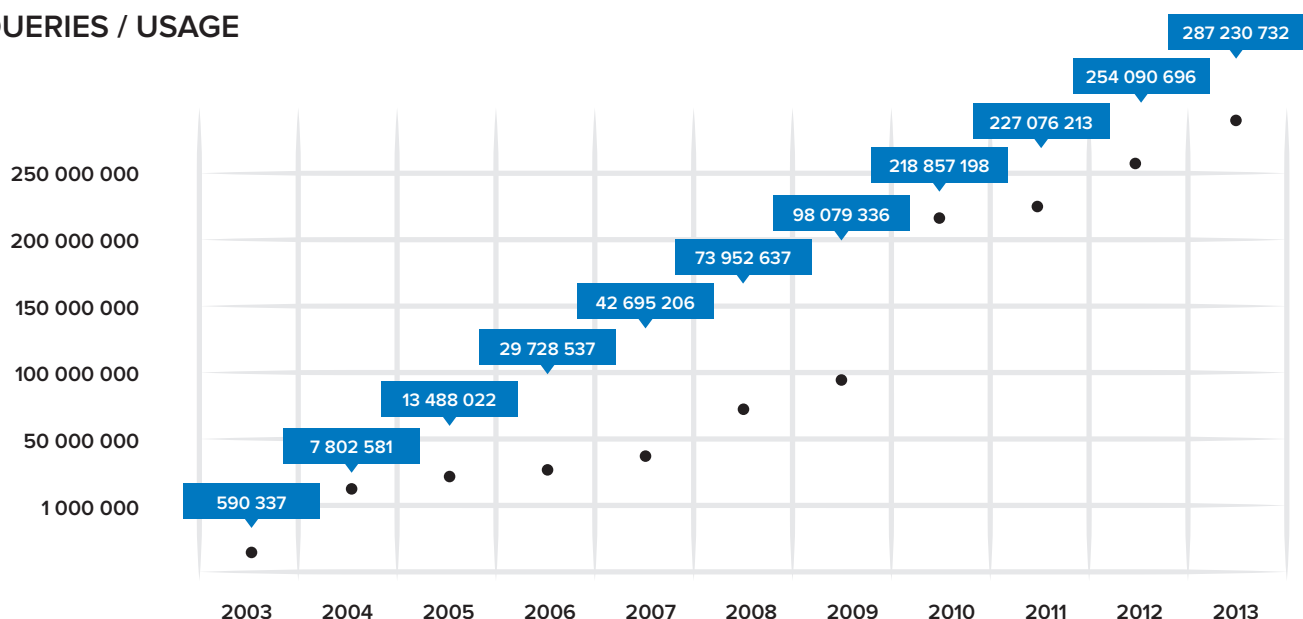
Public and private sector enterprises and institutions can connect their information system with the X-Road. This enables them to use X-Road services in their own electronic environment or offer their e-services via the X-Road. Joining the X-Road enables institutions to save resources, since the data exchange layer already exists. This makes data exchange more effective both inside the state institutions as well as regarding the communication between a citizen and the state. The X-Road relies on a platform that is **open, secure and simple**. Information systems based on different platforms can successfully communicate with each other simultaneously and their individual characteristics do not hinder this. X-Road gives service providers and data owners free hands to design and implement new services while relying on the existing secure infrastructure.



## X-ROAD IN NUMBERS

- X-road core technology has been used in Estonia since 2002.
- Over 170 databases offer their services over X-Road in Estonia.
- Over 2,000 services are used over X-Road in Estonia.
- Over 900 organisations use X-Road daily in Estonia.
- More than 50% of the inhabitants of Estonia use X-Road through the information portal eesti.ee.
- In 2013 over 287 million queries were done over X-road.

## QUERIES / USAGE





## SERVICES ON X-ROAD

X-Road enables a wide range of otherwise complex services to be offered quickly and conveniently. Some of the examples:

- Presenting a registration of residence electronically;
- Checking one's personal data (address registration, exam results, health insurance, etc.) from the national databases;
- Declare taxes electronically;
- Check the validity of your driving license and vehicles registered to your name;
- A newborn child receiving health insurance automatically.

X-Road is particularly suitable for queries involving multiple agencies and information sources. In Estonia, the checking of a vehicle's data, for example, has become quicker for the Police and Border Guard Board:

- Before X-Road: 3 police officers + 20 minutes = 1 car background checked
- With X-Road: 1 police officer + 2 seconds = 1 car background checked

## HOW DOES X-ROAD WORK?

The security of X-Road is guaranteed by its architecture together with regulatory, organisational and technical measures – data transactions between service providers and users occur directly between secure servers using encryption.

In the X-Road environment, encrypted data are directly transferred through secure servers from one information system to another. Data does not pass through the X-Road centre and cannot be viewed there. The centre only has statistical information about data transfer.

The X-Road **central server** issues certificates to **secure servers** and provides a list of trusted certificates to systems connected to the X-Road. Additionally, the central server accepts log hashes from secure servers so that if needed, a chain of service usage can be constructed later. In this case, the service provider's log, the service user's log and the central server's hash are compared. This method allows for checking the integrity of secure servers' logs, as it is impossible to change a log without it being detectable later. Service users' groups are described in the central server, so that service providers could open services to groups as well.

