Hello, and welcome to this presentation of the STM32 Device Electronic Signature which may be used as a device identification or serial number.
The device electronic signature provides a set of registers containing die identification, unique device identifier UID, other device information such as memory size, package type, and device calibration information. Application benefits are: a unique identifier can be used as a part of security keys, as a serial number, or control of software distribution/licensing based on UID.
Unique identifier and other device information are preprogrammed by ST factory and can’t be altered by user. This identifier can be used as a security key or serial number, as well as an identifier for software licensing. Information stored in these registers can’t be altered by the user.
Unique device identifier is a 96 bit register created from coordinates of the die on the wafer, lot number and wafer number, with certain number of bits reserved for each of those records. This identifier is unique for each part manufactured by ST. As each record within the unique identifier has some range, like X and Y coordinates, not all the bits in the device ID are used. This is important for security related purposes, where the number of bits used is important parameter. Such applications may use only part of the device ID and avoid using the fixed bits.
For detailed information, please refer mainly to device reference manual and datasheet.