# KOTLIN

## YOUNG NEWCOMER IN THE FAST LANE
### OPEN-SOURCE PROGRAMMING LANGUAGE

Presently, Kotlin is rated among one of the fastest-growing programming languages. JetBrains (best known for their IDEs IntelliJ and WebStorm) released the first stable version back in 2016. This new language is statically typed and focuses on type safety and interoperability. Kotlin was originally conceptualized for the Java Virtual Machine (JVM) and became an official Android supported language in 2017, however it has also proven suitable for web projects as well.

The reactive and concurrency programming paradigm, in combination with the possibilities of a domain-specific language (DSL), simplifies the development of powerful and industry-specific solutions. The availability of co-routines and channels makes it easier to deal with concurrency in software. The backers are currently working on support for further platforms like Windows, macOS and even iOS. The compatibility with Java is especially noteworthy, as both languages can coexist without problems.

### ADVANTAGES OF KOTLIN

· Expressiveness and conciseness — code written in Kotlin is significantly shorter compared to Java code. Data classes reduce required boilerplate code.
· Fast compilation time, while at the same time paying attention to safety
· Excellent documentation
· The ability to extend any existing classes with additional functionality, without the need to inherit from them
· Higher-order functions can take other functions as input parameters or return functions directly
· Type aliases and operator overloading

**Null pointer exceptions have been skillfully managed by Kotlin. In contrast to Java, where exceptions are only thrown at runtime, JetBrains has solved this challenge in a different way. The system distinguishes between null and non-null references already when compiling the code. This drastically reduces the chance of running into null pointer exceptions, as well as the need for null checks.**

### AERIS EXPERTISE – APPLICATIONS & ARCHITECTURES

· IoT microservices
· Solutions for converting and analyzing data streams
· Load-testing tool
· eBanking backend
· Interfaces between heterogeneous systems

### WHY KOTLIN IS SO VALUABLE TO AERIS' CLIENTS

· Rapid development and delivery of a solution — either stand-alone or in the form of containers
· Reliability, security and performance of our applications
· Quality of the source code and tests
· Integration with CI/CD tools for automatic testing, build jobs and deployment of software
· Knowledge transfer to the development teams of our clients — the flat learning curve allows for a fast transfer of skills