

HI CREDITS

HI CREDITS IS A SOLUTION THAT ENABLES USERS TO MAKE CONTEXT AWARE REMOTE MOBILE PAYMENTS. IT IS BASED ON THE TECHNOLOGIES AND COMPONENTS PROVIDED BY THE HI REPLY PLATFORM TO MAKE THE PURCHASING EXPERIENCE SIMPLE AND 'SMART'.

THE MOBILE PAYMENT SOLUTION COMBINES THE DIFFERENT ELEMENTS THAT MAKE UP THE SMART CITY DIGITAL LAYER: A SMARTPHONE (HI CREDITS CLIENT), AN AGGREGATOR (HI CREDITS SERVER) AND THE BANKING PAYMENT GATEWAY. THE HI CREDITS CLIENT'S COMPATIBILITY WITH THE MAIN SMARTPHONE PLATFORMS CURRENTLY AVAILABLE MAKES THE SYSTEM PARTICULARLY VERSATILE — AN IDEAL SOLUTION FOR TODAY'S USER.

THE SOLUTION USES THE FUNCTIONALITY OF THE NEW GENERATION OF SMARTPHONES (LONG RANGE COMMUNICATION, CAMERA, GEOLOCATION) TO ADAPT THE INTERFACE AND PURCHASING METHODS TO THE SITUATION, THE TYPE OF USE OR THE GEOGRAPHICAL POSITION OF THE USER. HI CREDITS REDUCES TO A MINIMUM THE VOLUME OF DATA THAT THE USER IS OBLIGED TO ENTER TO COMPLETE THE PAYMENT.

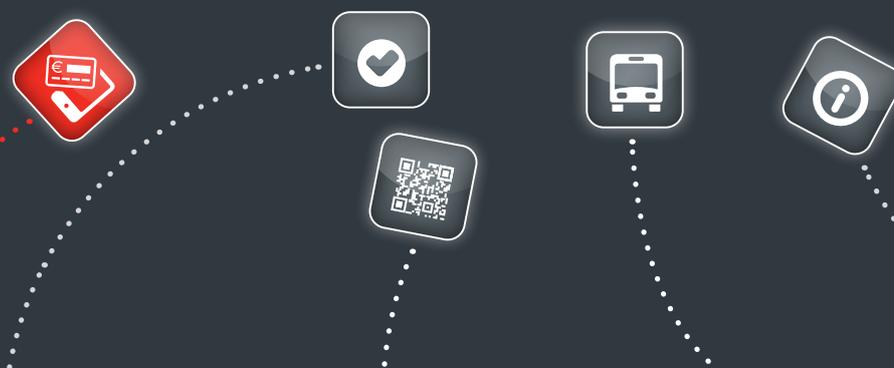
HI CREDITS PROVIDES APPLICATION SCENARIOS FOR REAL-TIME, SECURE PAYMENTS OF TICKETS FOR CAR PARKS, CINEMAS, MUSEUMS, PUBLIC TRANSPORT, AND PARKING METERS, ETC.



INTRODUCTION

The Internet of Things is the next stage in the evolution of the communication paradigm currently provided by the Internet. Up until now, the devices connected had to be homogeneous, but with the Internet of Things it is now possible to link up heterogeneous devices. Indeed, the Internet of the future is making it possible to connect machines and devices that differ significantly from each other, and to reprocess and translate heterogeneous data into services used to exchange information on the network via Web Services.

The Reply Research and Development centre dedicated to the Internet of Things (**IoT**) – and to the Internet of Services (**IoS**) – has created **HI Reply**, an innovative platform featuring services, devices and middleware, which bypasses the limits imposed on users by other solutions currently available on the market. The main characteristics of HI Reply are pervasivity, transparency, inter-operability, flexibility, sensitivity to the context in which it is applied, and a capacity to self-adapt and self-configure. HI Reply offers a basis on which to develop new specific applications for vertical scenarios, for example the **Context Aware Mobile Payment** sector.





HI CREDITS

SOLUTION/ ARCHITECTURE

HI Credits is based on the interaction between a client application on the user's smartphone and an application server together with the payment gateway of the user's bank or payment institution.

The client may access the payment service through HI Credits by registering on the bank's web portal. Following registration the user will receive a Username, Password and PIN code for confirming payments made using the HI Credits Client application.

The user can download the HI Credits Client application to his or her mobile phone directly from the Application Stores provided by the telephone or operating systems manufacturers.

The app can be activated remotely through an online procedure which collects and verifies personal data and payment details.

The acquisition of payment details is fast and secure thanks to an advanced use of the features of today's smartphones: two-dimensional bar-codes (QR Codes), geolocation, and indoor localisation. The payment operations require users to enter numerical codes and digital signatures, in compliance with the strictest security measures. The solution aims to minimise the volume of data that the user has to enter manually. To make a payment the buyer generally only needs to enter the device PIN number and press the OK key.



MOBILE PAYMENT
GATEWAY



HI CREDITS
BACK END



INTERNET



MOBILE
NETWORK



SMARTPHONE

FUNCTIONALITY AND STRONG POINTS

Currently there are many situations the HI Credits solution can be used for:

- ▶ Payment via mobile POS by reading payment details via the QR Code displayed on the trader's smartphone. Due to the lower costs of the POS device, this solution is particularly attractive to small traders, professionals, newsagents, and taxi firms etc.
- ▶ Mail Order purchases using QRCode payment codes:
 - Leaflets
 - Promotional web pages
 - Targeted advertising campaigns via e-mail
 - Television programmes
 - Hoardings
 - Virtual e-commerce POS
 - Magazines
- ▶ Purchase of geolocated goods and services:
 - Tickets for local public transport
 - Entrance tickets for museums, events, exhibitions, theme parks
 - Payment of car parking in reserved spaces (the so-called 'blue areas')
- ▶ Access to automatic services (such as bike sharing keys, booking and payment of car parking spaces with automatic entry barrier)

The solution's strong points are its user-friendliness and the security of a payment system guaranteed by rigorous banking procedures.

FURTHER APPLICATION SCENARIOS

The HI Credits solution can easily be applied to new mobile payment scenarios. Some of the most noteworthy ones include **NFC** (Near Field Communication) **payment**, the **introduction of compatible cash registers**, and **federated banking systems**.

REPLY

HI Reply is an innovative platform created by Reply, which incorporates services, devices and middleware for the Internet of Things. HI Reply creates an ecosystem of people, objects and services that communicate via the network. HI Reply uses sectional, configurable modules to provide all the elements necessary for the creation of vertical solutions that are secure, scalable and flexible, and based on the interaction and cooperation of connected objects.