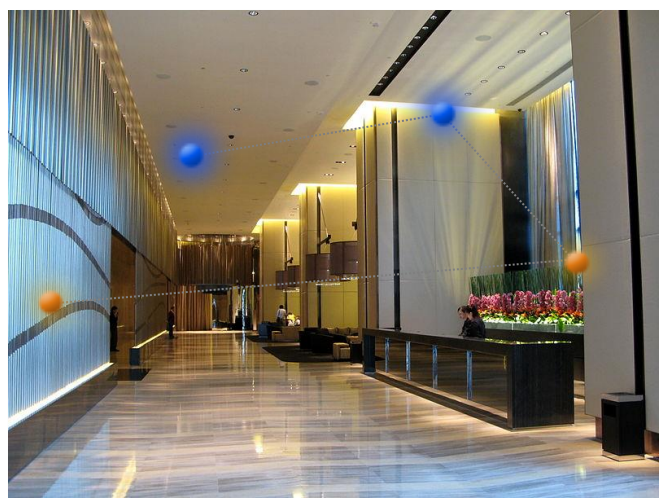


### Introduction

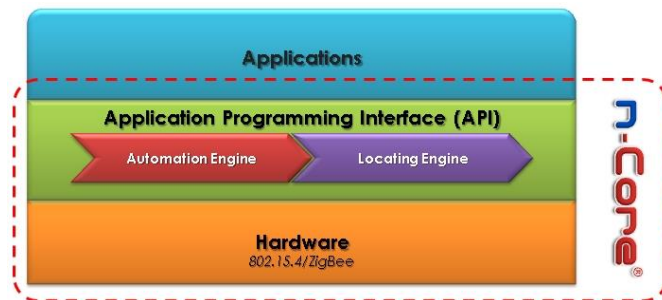
The n-Core Development Kits are **the best way to enter the world of Wireless Sensor Networks (WSN)** based on the IEEE 802.15.4/ZigBee™ standard and **test the full potential of the n-Core platform.**



The n-Core Development Kits offer all the necessary **hardware and software tools to design, develop and deploy, easily and quickly, a wide variety of applications**, from monitoring systems and data collection to complex identification and locating systems.



n-Core consists of several **modules**, fully integrated among themselves, which provide all the functionalities of the platform.

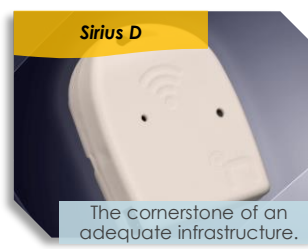
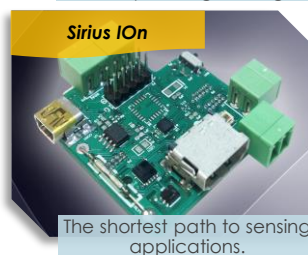


### Hardware

The n-Core Development Kits provide a set of **radio-frequency devices** based on the IEEE 802.15.4/ZigBee™ international standard, called **n-Core Sirius**.

**The family of Sirius devices is the basis of the wireless infrastructure of the n-Core platform.** These devices provide a unique versatility in the market, adapting to the specific needs of a wide range of applications.

### n-Core Sirius Family



### Software

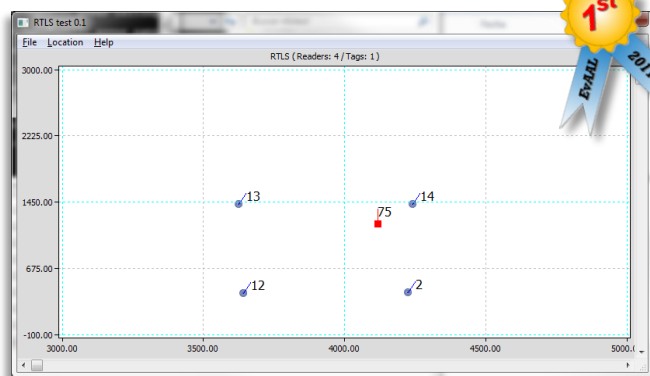
The n-Core Development Kits include a complete **Application Programming Interface (API)** to easily create end-user applications from any compatible language and Integrated Development Environment (IDE), for example, .NET, Java, C/C++ and Python, among many others.

The API also offers **two powerful engines** to develop specific applications:

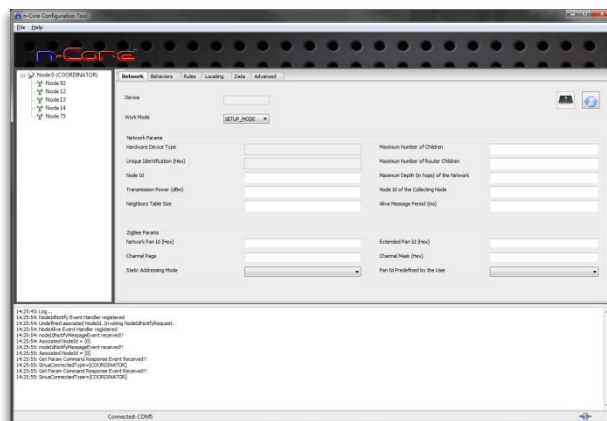
- 1. Automation Engine:** Control and monitoring of any sensor or actuator connected to the system. Includes basic functions ranging from networking to automatic data collection.



- 2. Locating Engine:** Estimate of the position of mobile devices by using the same network infrastructure. Includes complex algorithms that calculate the position of any n-Core device with an **exceptional accuracy, both indoors and outdoors.**



The n-Core Development Kits also include **configuration tools** that allow adjusting the different parameters of the Sirius n-Core devices in a simple and intuitive way.



```
//Start location
private void StartLocation()
{
    var Inode = ncRtIsNetInputUpdateMode.NCORE_NET_RTLS_TOTAL_MERGE_UPDATE_MODE;
    var estimator = new ncRtIsNetMeanLargeScalePathLossDistanceEstimator(par.EstRecPower, par.EstInitDist, par.EstH);
    var ponderer = new ncRtIsNetGeometricPonderer(par.PonCycles, par.PonIValue, par.PonFactor);
    var locator = new ncRtIsNetSimpleFuzzyLocator(estimator, ponderer, Inode, par.LocFactor, false, par.LocA, par.LocT, par.LocDThreshold);
    _locationId = IncludeCoreRtIsNet.ncRtIsNetStartLocation(locator, par.RefreshRate, proxiesIds);
    if (_locationId == (int)ncRtIsNetLocationId.NCORE_NET_RTLS_LOCATION_ID_ERROR)
        Debug.WriteLine("Start location failed"); ;}
}
```

### Versions

	Basic Version	Full Version
Sirius Quantum 2.0 Devices	x1	x2
Sirius RadIOn Devices	x1	x7
Sirius IOOn Devices	x5	x5
Sirius A Devices	x1	x1
Sirius B Devices	x1	x2
Sirius D Devices	x1	x2
Automation Engine	✓	✓
Locating Engine		✓
Configuration Tools	✓	✓
Documents and Examples	✓	✓
Technical Support	Optional	Optional

### Contact Information



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