Nella natura del suono
“Nature does not reveal herself, instead she remains hidden, so that one must with a thousand clever deeds and a thousand schemes, coax her, press her, torment her and tear from her with vicious force, her secrets”

Giacomo Leopardi 1818
You can translate the dimensional data into sound values

Physis technology includes

- Sound algorithms based on the physical model of pipes, a technological innovation by Viscount
- Specifications independence
  - ubiquity (possibility of choosing places, environments and organ to be played)
  - tri-dimensionality: peculiar to this technology
  - internationality: due to the easy cultural adaptation
You play

the culmination of 10 years research by Viscount classic organs

Physis technology is exclusively

- Italian style and culture
- Proprietary patented technology
- History and competence
You choose a new technology that creates the sound by modeling and reproducing the natural as well as the physical characteristics of organ pipes.

- Tri-dimensionality and physics of the sound
- Variety of the “sonic environments” that can be set
- Unique – The competitors still use the samples
You want

a revolutionary development in pipe organ sound generation
The concept applied for current organ sound generation has not significantly changed since the early 90s. Hardware architectures of a typical liturgical organ were developed more than a decade ago. While recent design has radically changed the appearance and function of much digital electronic equipment, we recognize that the organist still wants a traditional instrument and is far less concerned with technological developments. However, we strongly believe that more can be done, improved and delivered in term of benefits for both musician and audience.

This approach will guide our future development.
10 years ago we started by setting up a small group of qualified engineers and in 2003 Viscount patented worldwide the physical modeling method of synthesis applied to pipe organ sound.

This new technology is the facilitator, the means by which we can allow you to reach your goal.

It sounds substantial

- More than 5 million euros invested
- 40 people involved
- Tens of thousands of hours of work
- Hundreds of thousands of lines of code written
Achieving an individual organ identity
Viscount has the target-research to create a physical model of a pipe organ that reproduces a real replay in terms of sound and stop dispositions. We want to be able to let customers swap between physical sound replay of various organs, just by pressing a button. No more Romantic, Baroque and Symphonic but the actual instrument you prefer, worldwide.

A sonic copy is much more than a good sounding instrument; it is the meticulous research of the “perfect copy” in every single detail, every single nuance. The PCM sampling technology that Physis will replace does not provide the right fundamentals, enough flexibility, or enough sound detail. We have now chosen another route.
It sounds unique

The main concept of current sampling technology is based on “sound pictures” taken from the original instrument and then played back each time you press a key. This static concept is far removed from a real pipe organ where, every single note has its own sound history. If we play the same note twice on a sampled instrument and we analyze them we see that they are, obviously, identical.

The second note has been changed on the attack region, according to the physical conditions of the pipe as set by the programmer. Even if you play the same note a hundred times you will never find two that are the same. Sampling technology is not effective enough to achieve a true clone of the sound because it is too static a means of sound generation.
It sounds like no-other
no split points

The split point effect is the first factor that easily identifies a sample based digital instrument. This flaw is strongly criticized by advocates of the pipe organ and results from the limitations in memory that can be economically held within a computer chip.

Organ manufacturers are currently forced to use a single sample for multiple keys by spreading it across a region of the keyboard. At the point where a new sample takes over the musician hears a slightly different sound. This makes the end result not totally realistic. Moreover, the ‘scratching’ of the sample makes some notes sound unnatural.

Physical modeling on the other hand does not have samples and therefore the split-points do not exist. When the physical model is applied to a stop, there is a natural progression across the whole keyboard just like a fine pipe organ.

Another great feature needed for a sound replayer.
It sounds editable

Sound as a sum of single components.

If you have eggs, milk and sugar you can obtain a cake, but if you have a cake you cannot obtain eggs, milk and sugar. Building on this picture we can say that by using a sample based technology we deal with the cake, and by using the physical modeling we deal with the ingredients.

It sounds natural

Too many factors, during the sampling process and post-processing are fixed and cannot be varied. Much has been done during the history of the digital organ to try and improve the editing of sound samples. It is just like adding ingredients to a finished cake, and you end up with an imperfect mix. Everything happens after the sample, with results far from the real thing. (have you ever tried to remove the sugar from a cooked cake?).

Thanks to the Physis technology we can work on each single factor that physically contributes to the sound.

There is no doubt that, in order to create a sound copy, the sound generation engine must be flexible as never before. It’s known that thanks to the physical modeling parameters of our new technology, a truly virtual pipe organ can be created and made to copy the sound of any instrument around the world.
Physis > the next steps
A multi-processor platform
In 28 cm (w) x 17 cm (d) x 10 cm (h) we have included the whole core of the organ.
The system’s kernel is made by:
Up to 8 AMD SHARK Digital Signal processor
Up to 5 Microprocessor (control)
For a total of thirteen microprocessors, that gives a huge calculation power of more than 12 Billion instructions per second.

Each board is made from 6 different layers with each one carrying hundreds of connections wires between the various components.
All the efforts put into the high integration have been done to ensure even greater improvement and system reliability.
UNICO is the NEW Viscount classical organ.
The new system is based on Physis technology that models the sound reproduction and the physics of organ pipes. With UNICO it is possible to precisely reproduce the sounds, the ambience and the registers of organs located in the most famous cathedrals in the world. The workmanship and the Linux-based software system guarantee: reliability, accuracy and endurance for many years. UNICO organs reproduce the sound dimension and the ambience of original classical music.
Unico > Linux powered

The electronic organ (as with all sophisticated electronic devices) comes from an information technology environment.

Every day we are asked to connect organs to a USB pen, or to use some standard computer files, or even to connect to a printer.

The operating system is the most important program that runs on a computerized device. Every general-purpose computer must have an operating system to perform basic tasks and controlling peripheral devices.

In our current line of products, we have used our own operating systems, written line by line by our software specialists.

Physis organs are powered by LINUX that is a Unix-like operating system for personal computers and is a worldwide standard system compatible with most other hardware.

Thanks to the calculation power of the microcontrollers we will use, it is now possible to embed linux inside our organs.

Unico > the Linux benefits

Linux is totally transparent to the organist, who'll continue to use his instrument like he does today, but with a lot of benefits in terms of connectivity and integration with the personal computers world.

Linux supports, for example, the whole USB world (both as master or device), ethernet connection, IP protocol (Internet) and many other protocols and hardware peripherals.
Certainly we should speak about a company founded 100 years ago, but now we prefer to talk about a “project”. A project that involves passion, vision, wish and dreams.

Italy at the end of the nineteenth century was a country with an economy based mainly on farming but slowly industry began to grow. In a small village called Mondaino, Antonio Galanti earned his living as musician travelling to towns and villages. Music was his real passion and soon he designed and built the first Galanti Accordion.

Galanti accordions were continually improved until in 1955 when a device was invented to allow the basses to be played freely to assist the musicians creativity. The Galanti accordion was selected to be included in the Music Academy’s teaching programmes.

As music fashions changed and developed, the Fratelli Galanti reflected these, by producing electric guitars whilst continuing to produce the highly acclaimed classical accordions.

In 1959 Egidio’s sons, established a new company for the production of the first electronic musical instruments from which the first electronic organ was produced.

The technology used sound generators and integrated circuits until the present day of sound modelling on DSP devices. The business traded under well known names such as Baldwin, Thomas and Vox.

In 1969 Marcello left his brothers and founded Intercontinental Electronics Spa to design and manufacture electronic organs.

With highly qualified technical staff he set up research and development laboratories for the development of components, sound generation and high class wood cabinetry.

Initially technical and sales efforts were directed towards the Dutch and American markets where the organ culture was growing.
Today the new Galanti generation, Marcello’s sons, have developed Viscount projects using significant investments in technical research culminating in some important patents, the latest is Physis technology. Viscount is unique for its research and development laboratories.

It is much appreciated by the various international partners for its strict quality controls.

Beauty: It is our great fortune to leave in Italy because we are surrounded by many artistic and architectural masterpieces and in Mondaino by an important musical tradition. Our instruments reveal this experience in their quality of presentation.

Artisan skill: Our instruments have wooden consoles of high quality and do not use toxic materials. We check the Viscount instruments in the smallest detail so that it will last for many years achieving an enduring beauty that only wood can give.

Technology: Real technology is not seen, it is felt: technology may be a standard research only for the best possible price or a research for obtaining the best. Viscount produces exclusively in Europe and guarantee that each organ uses the best technology which arises from worldwide contacts relating to the product engineering.

Passion: Working at Viscount means sharing a friendly and positive atmosphere with no stress. Here many specialists are qualified musicians, there are no employees just “collaborators”. Thanks to this our instruments are built with passion and enthusiasm.

Music culture: Music is the centre of everything, the centre of our work. It is music for ourselves, for our feelings and for our sole. We are passionate about our organs and our customers became our friends.