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VDLV ECOSYSTEM

VDLV 2019 KEY FIGURES

Workforce: more than 70 employees

Production capacity: 2,000,000 vials/months 1,500 resellers in France

1,500 resellers in France 115 different flavours Distributed in 40 countries 2018 turnover: 13 million €



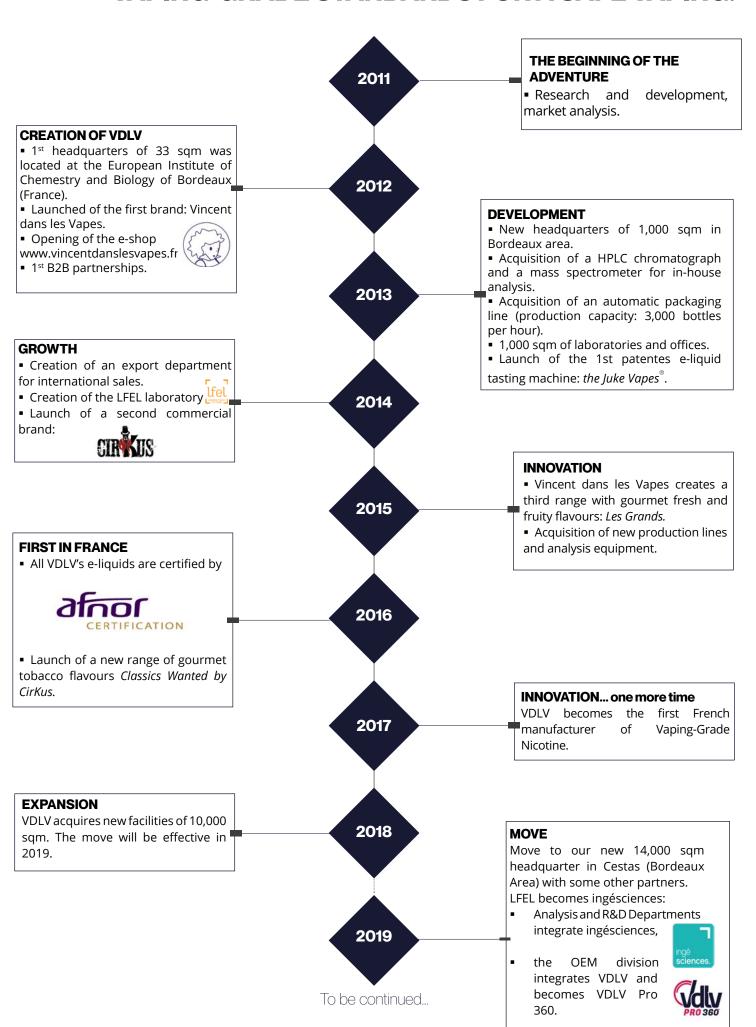








IN 8 YEARS VDLV BECAME A LEADER IN TERMS OF VAPING-GRADE STANDARDS FOR A SAFE VAPING.



CREATOR AND PRODUCER OF THE FINEST E-LIQUIDS

Since 2012, VDLV has devoted itself passionately to creating and producing e-liquids for electronic cigarettes. From product design to sales, VDLV applies precise safety rules to provide optimal protection for consumers.

WHAT DO OUR E-LIQUIDS CONTAIN?





Propylene Glycol (PG)

Propylene glycol belongs to the family of glycol ethers and have the particularity to be easily vaporized. PG encourages the "hit" sensation (contraction of the pharynx during the passage of the vapour), craved by smokers. It is commonly used in the cosmetic, medical and food industries.

Vegetable Glycerin (VG)

VG belongs to the polyol family with a low vaporization temperature. It produces more vapour than propylene glycol, it is viscous in appearance and tastes slightly sweet.





French Vaping-Grade Nicotine

Nicotine is an alkaloid, stimulant in small doses, quickly eliminated by the body, non-carcinogenic but toxic in large doses and capable of generating strong dependence in case of regular consumption.



Specifically selected for their inhalation properties, the aromas give to e-liquids its tastes. They can be natural (for Vincent dans les Vapes brand) or natural and synthetic mix (for Cirkus brand).

INVENTOR OF JUKE-VAPES®

THE JUKE-VAPES® BY VDLV IS THE 1ST CONTACT-FREE PATENTED E-LIQUID TASTING BAR FOR VAPE SHOPS.

Created and developed by VDLV, this system reflects the quality commitment of the company and its knowledge of the vaping industry. Discover this innovative, practical, hygienic, fun and... made in France device.

New New **Innovation** Time **Financial** Saving **Profit Design Technology Award** Contact us for more information: export@vdlv.fr

OUR STANDARDS



QUALITY COMMITMENT

For client safety, we perform numerous analysis to guarantee the quality of our products:

- ☑ Systematic control of the nicotine bases throughout production, performed in-house, by means of HPLC chromatography (analytic separation technology).
- ☑ Regular controls of the nicotine contents of our e-liquids
- ☑ Regular random sampling microbiological analysis of all our e-liquids by a COFRAC-accredited laboratory (accreditation no.1-0797):
 - Micro-organisms at 30°C Presumed enterobacteria Coagulase positive staphylococci.
 - Yeasts and moulds E. coli Salmonella.
- Regular heavy metals analysis (antimony, arsenic, mercury, lead, cadmium), aldehydes (formaldehyde, acetaldehyde, acrolein), diacetyl and parabenes.



CONSTANT INNOVATION

Since 2012, VDLV has always been innovative through the creation of e-liquids but also in the field of vaping. Creator of the Juke-Vapes[®], the first contact-free e-liquid tasting bar. Leading European producer of liquid nicotine especially conceived for inhalation, and first certified e-liquid manufacturer by AFNOR Certification.

VDLV is reinventing itself on a daily basis and to go beyond the expectations of its consumers. VDLV's development also goes through the support of related projects, such as the growing of tobacco fields in southwestern France, the production of biopesticides based on microalgae (ImmunRise) and the production of second generation bioethanol (ABnova project).



FRENCH PRODUCTION

All our products are manufactured and analysed in our production laboratory located in Bordeaux area, France. All VDLV suppliers provide the company with EP quality (European pharmacopeia) raw materials, including propylene glycol and vegetable glycerin, as well as food enzymes and flavourings meeting all applicable European standards. We select carefully raw materials produced in France or in European Union. It should be noted that we produce our own vaping-grade nicotine in France. All our products are supplied with safety data sheets, quality certificates and also undergo a large number of in-house analysis.



VAPING-GRADE FLAVOURS

VDLV selects carefully alimentary quality natural and synthetic aromas. However, the respiratory system is not equipped with powerful enzymes and the metabolic detoxification pathways which are present in the digestive tract. Food enzymes and flavourings may also represent a potentially toxic effect upon inhalation.

This is why VDLV has drawn up specific requirements and high standards for the selection of its aromas.



On 9 September 2016, Vincent dans les Vapes and CirKus e-liquids received the AFNOR certification XP D90-300 section 2 standard.

VDLV thus became the first French manufacturer to offer such a seal of quality and safety to its consumers.

E-LIQUID CERTIFIED BY

AFNOR Certification www.afnor.org/certification

This certification represents a significant step in the implementation of standards regarding the composition of e-liquids. At present VDLV remains very active into European (CEN) and worldwide (ISO) standardization works.



1st EUROPEAN MANUFACTURER OF VAPING-GRADE LIQUID NICOTINE

VDLV has always been particularly attentive to the quality of its raw materials. Among these, it is essential to note the importance of nicotine. Consumed in «burning» cigarettes, it is the main cause of smokers addiction to cigarettes. Contrary to popular belief, it is not harmful in this natural form; which is not the case for the tars and other additives that are added by the tobacco companies. In its pure and liquid form, it is obtained by extraction from tobacco plant leaf.

In order to strengthen the control of its production chain and improve the level of safety for the consumer, in 2017, VDLV became France's leading producer of vaping-grade liquid nicotine.

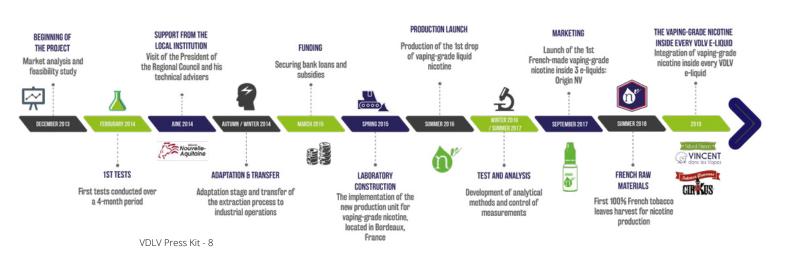
While there are currently some European companies that import or purify nicotine, only three countries in the world extract and produce liquid nicotine from tobacco leaves: China, India and more recently the United States. Liquid nicotine coming from China and India present high impurity (nitrosamines, nicotine oxides, etc.) and are mainly reserved for insecticides. The nicotine extraction process developed by VDLV is based on «soft technology», which means that it is less agressive with the environment, the raw materials and the final product. With a result whose purity level is higher than those obtained by the Chinese or Indian laboratories, the purity of VDLV's liquid nicotine exceeds the industry pharmaceutical purity standards (EP and USP quality).

Extraction technology based on green chemistry principles

The elaborated design and industrial operation method also allows for optimized material flow management and guarantees optimal product quality monitoring. VDLV also recycles a part of its waste by supplying mulch (tobacco residue) to local methanation companies for the production of energy and fertilizer. VDLV's vaping-grade nicotine was first introduced on the market with the «Origin NV» e-liquid collection from Vincent dans les Vapes. Since spring 2019, it is available in all VDLV e-liquids.



PROJECT HISTORY



FRENCH VAPING-GRADE NICOTINE





Nicotine extracted from French tobacco leaves

With support from the beginning of this project by local institutions, VDLV has had a long-standing commitment to the production of vaping-grade nicotine from tobacco plants grown in France. This type of production requires the use of tobacco with a high nicotine strength. Until very recently, French tobacco was mainly grown for smoking. The selected varieties had to possess mainly gustatory properties.

However, the nicotine levels in these varieties were too low to be industrially developed by VDLV. Agricultural engineers in southwestern France conducted a lengthy investigation into the selection of plant varieties in order to detail those that could meet VDLV's needs. From 2017, a number of test plots are being cultivated in the southwestern France, to verify the compatibility of these new varieties with an agricultural exploitation. The first results obtained are extremely satisfactory and the nicotine concentration of these new varieties corresponds to the dimensioning of our industrial tool and potentially to the expectations of our partners and colleagues in the vaping sector.

The long-term objective is also to establish a solid partnership with local farmers by encouraging them to develop innovative cropgrowing techniques, such as experimentation on seedling varieties or the application of new phytosanitary solutions.

Integrating its development into sustainable development via green chemistry and industrial ecology, is a key issue for VDLV employees, thereby continuing to innovate in a circular economy principle. In the context of the integration of this project,

VDLV also supports research on the use of bio-pesticides based on micro-algae through a collaborative partnership with **Immunrise Bio Control** company.

Since spring 2019, it is available inside every VDLV's e-liquid.

With the support of the local and regional institutions, this innovation consolidates the current international recognition of France in the field of quality expertise and biochemical engineering, by becoming the leading producer and exporter of high-purity liquid nicotine in Europe.







AROUND THE WORLD



With a distribution network that includes more than 2,000 vape shops and pure player in France, VDLV also makets its e-liquids to over 40 countries.



VINCENT VINCEN

Responsive and versatile, our Export Department is able to answer every national regulation.

Whether they are distributors, resellers or vapers, we are at the disposal of our customers throughout the world.

We develop with great care specific products according to the demand of each market: adaptation of the bottle, packaging, label and even specific recipe creation.

In addition, we offer to our international distributors the possibility to benefit from an expertise and know-how that has been acknowledged since 2012 thanks to our research work on the vaping field.

Finally working with VDLV means allowing other markets than France to sale AFNOR-certified e-liquids: a true guarantee of quality and expertise for vapers throughout the world.



VDLV PRO 360, THE SERVICE OFFERING DEDICATED TO PROFESSIONALS



Since December 2019, the design, production and compliance divisions of French E-liquid Laboratory (LFEL) have been part of VDLV and operate as VDLV Pro 360.

All VDLV's technical and industrial expertise is now available to industry professionals for designing and producing vaping products and ensuring their compliance. To respond to their expectations, our production methods meet the certification requirements of the XP D90-300-2 standard and quality management process based on the ISO 9001 reference framework:

- Raw material selection and sourcing quality control (European and American pharmacopoeia),
- Industrial plant qualification and inspection,
- Production and management staff training,
- Product quality analysis before, during and after manufacture.



ORIGINAL RECIPE DESIGN

VDLV helps its customers design original e-liquid and concentrated flavour ranges. We work together with our customers to design bespoke compositions, from the simplest to the most complex flavours



MANUFACTURING AND PACKAGING

VDLV makes its widely-recognised know-how available to vaping industry professionals. We provide turnkey production, packaging and labelling services to suit all needs through our inhouse expertise and industrial facilities that meet the strictest standards.



PRODUCT COMPLIANCE

TPD regulations and notification, labelling and CLP compliance, Safety Data Sheet (SDS) drafting and INRS declarations, etc. VDLV Pro 360 walks its customers through every stage of the e-liquid compliance process before shipping to market.



Quality



Rapidity



Flexibility

With its 11 automated packaging lines, label printing room and contract manufacturing laboratory spanning a total area of 8,500 sqm, VDLV demonstrates the performance of its industrial facilities through a commercial offering dedicated to professionals.

OUR E-LIQUIDS BRANDS



The Basics by Vincent



Plain flavours

Our premium collection 100% natural flavours

10ML PET
60/40 PG/VG
5 nicotine strenghts
Available in concentrates
flavours and nicotine salt



VINCENT OFFERS FOR THE DIY LOVERS A VARIETY OF NATURAL FLAVOUR CONCENTRATES AND NICOTINE BOOSTER.



Chill Drop is a CBD e-liquid's brand manufactured, analyzed and bottled in France.

Discover our 3 selections and their 7 original juices.



CBD BOOSTER AVAILABLE



AUTHENTIC GIRKUS

Authentic creations: tobaccos, fruits, mints, custards

10ML PET 50/50 PG/VG 5 nicotine strenghts Available in concentrates flavours and nicotine salt





Original and gourmet compositions





A gourmet tobaccos selection

10ML PET PG/VG 50/50 5 nicotine strenghts



ALSO AVAILABLE FOR DIY: THE AUTHENTICS AND ECCENTRICS FLAVOUR CONCENTRATES.

COMMITED PLAYER

ON A LOCAL, NATIONAL AND INTERNATIONAL LEVEL

Ever since its creation, VDLV has constantly committed to developing a real trade sector for electronic cigarettes in order to promote and protect vaping but also to advance the debate on the safety of vaping (composition of e-liquids, choice of aromas and others).

Located in southwestern France, VDLV established from its inception a strong partnership with Bordeaux University analysis laboratories. This partnership still lives on: VDLV propels a research centre (ingesciences) and recruits student researchers from the university to conduct in-depth studies in optimal conditions of all the elements involved in vapology.

By increasing its links with universities and institutions, VDLV has established a vast network to enable a maximum number of people to benefit from its knowhow and expertise. Moreover, the company is engaged in the AFNOR standardization process in order to establish a French standard for electronic cigarettes and e-liquids in collaboration with the FIVAPE.







COLLECTIVE OF THE FEDERATION INTERPROFESSIONNELLE DE LA VAPE (FRENCH INDEPENDANT VAPE TRADE ASSOCIATION)



To assert the rights of the vaping industry and retail but also to push the legislation to develop toward a true recognition of e-liquid manufacturers and distributors in France, VDLV is part of the French Independent Vape Trade Association (FIVAPE). Moreover, Charly PAIRAUD, VDLV's Managing Director, is the FIVAPE manufacturers General Secretary, for France but also internationally. With ongoing debates in the European Union and France concerning the supervision of electronic cigarettes and vape products, the FIVAPE proposes to contribute to elaborating regulations that take the reality of the sector and its issues into account, for the benefit of distribution players and, by extension, consumers. It also asserts the fact that vaping products are neither a tobacco product or a medicine. The FIVAPE also tries to combat fight against vaping fake news in the medias.

VDLV, LOCAL ECONOMY AND SPONSORING

VDLV is profoundly attached to its home territory. That is why the company is sponsored by the mayor's office and provides financial support to several social and environmental projects.

Fund for the preservation of development and valorisation of the trees in Pessac

- Implement preservation actions of the arborial heritage
- Develop new plantations on the territory
- Make people aware of the environment by proposing didactic actions centred around trees

Installation of didactic apiaries at the leisure centre of Romainville

- Make children aware of biodiversity and the major role of bees in this biodiversity through practical apprenticeships
- Make people more aware of the environment and identify factors that could endanger it

"Educational Success" is a customized support programme for children in difficulty aged 2-16 years

- Prevent the marginalisation of children in difficulty and encourage their well-being and social integration
- Encourage family links
- Struggle against school failure

COLLABORATION WITH INGÉSCIENCES



By harnessing science and process engineering, **ingé**sciences supports projects in progress or in the industrial start-up phase. While **ingé**sciences delivers technical solutions to industrial problems, the company also provides upstream advice on product design and chemical formulation though its analysis and R&D department. This in-house laboratory features a comprehensive range of analytical equipment providing us with the ability to produce multiple chemical, physical and biological analyses. The lab also provides competitive scientific intelligence services through innovative research programmes mainly focused on inhalation products.

Ingésciences brings cross-cutting scientific and technological input to your projects by providing advice and support to emerging businesses through several types of services:

- Physico-chemical analysis on product composition
- Regulatory support for product compliance
- Consulting and Audits
- Project development R&D (fundamental and applied research)
- Industrial process engineering

Its service spectrum meets the needs of many business sectors including vaping, agriculture, the environment, healthcare, foods, cosmetics and biotechnology.

INGÉSCIENCES IS BUILT AROUND TWO AREAS: OPENSCIENCES AND OPENINGÉNIERIE.

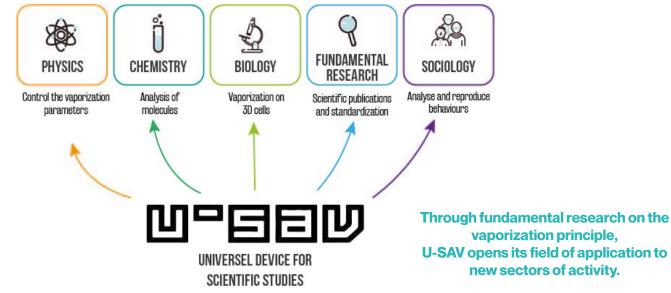
The objective of the R&D department is to be able to address any legitimate question that the public may have about e-liquids and their compositions, but also to study the equipment used and its interaction with e-liquids. For this purpose, it supports numerous research projects and carries out detailed studies on each parameter that may influence the vaporization phenomenon. The Analysis division works closely with the R&D department and adapts its analytical methods to the latter's requirements. Today, **ingé**sciences benefits from acknowledged expertise in the fields of Physics (thermal, thermodynamics, fluid mechanics), Chemistry (biochemistry, organic, analytical) and Biology (impact of vapour on human cells with VapEcell Program).



SCIENCE AND INNOVATION

In order to analyze the composition of the vapour inhaled by consumers, ingesciences laboratory must reproduce the phenomenon of vaporization in laboratory conditions, based on a realistic consumption of e-liquids, while taking into account the different types of equipment used. To conduct this research, ingesciences has developed a universal Vaping analysis system: **U-SAV**.

This tool permits the reproduction of vaping behaviour and measures the influence of each parameter (resistance, battery, wick, ceramics, puff time, etc.) involved in vaping, in order to study the composition of the vapour.



PARTNERSHIP WITH IMMUNRISE (BIOCHEMISTRY)



Agriculture and synthetic pesticides

France, the leading agricultural country in Europe, has some of the best soils in the world, forged by a unique climatic diversity. Its agricultural products are renowned throughout the world, and certain sell at premium prices. However, this reality is not a general reality, and in the manner of an iceberg, another part of our agricultural sector lies below the surface, subservient for several decades now to an agricultural model that stifles the fields, the environment and the farmers. 75,000 tons of synthetic pesticides are used each year on the national soil, i.e. a liquid volume equivalent to 30,000 Olympic swimming pools.

The Immunrise approach is part of a new method of eco-thinking that consists in observing nature in its diversity and identifying new solutions based on this to ensure the protection of crops.

The fundamental principle is based on the identification of marine micro-organisms capable of:

- Stimulating the natural defence of plants
- Acting directly on pathogenic agents, limiting the development of disease on plants



The objectives:

- Improve the yield and quality of crops while reducing the use of synthetic pesticides
- Significantly reduce the use of pesticides in the wine industry

VDLV supports Immunrise in its industrialization and jointly develops solutions for the spraying of micro-algae on vines.

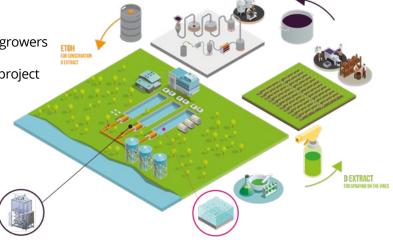
The first successful laboratory tests:

- 100% efficacy on Mildew (INRA trials)
- 50% efficacy on Botrytis (INRA trials)

Ongoing field trials:

- A collaborative effort with 10 Bordeaux winegrowers in 2018
- Implementation of an Algoculture industrial project

Algae culture industrial project



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