Product Innovation and Harm Reduction

We have been investing in technological innovation since the Company's establishment in 2018. We have made many breakthroughs in product technology and basic scientific research. By December 31, 2021, RELX has obtained 222 patent authorizations, with a cumulative R&D investment of 510 million RMB. With its leading technological innovation capabilities, Shenzhen Wuxin was selected as one of the Guangdong Technologically Advanced Enterprises 2021 （2021 年广东省专精特新企业） issued by the Guangdong Provincial Department of Industry and Information Technology in December 2021. Moreover, we coordinate our R&D layout according to the difficulties and needs of the industry. Aiming to continuously reduce the impact of products on public health, we have established a "1+4" scientific research chain for systematic scientific evaluation and harm reduction research on e-vapors.

Obtained
222 patent authorizations

Cumulative R&D investment
510 million RMB

The RELX "1+4" Scientific Research Chain

- We gather outstanding and responsible talents from all over the world.
- We are committed to lead industrial technology and advanced scientific research with cutting-edge designed products.
- We strive to build RELX into a leading enterprise and brand dedicated to serving adult smokers and wining the trust of all stakeholders.

Physical and Chemical Research | Toxicological Research | Clinical Research | Long-term Impact Assessment

Lifecycle Product Quality Assurance

RELX "1+4" Scientific Research Chain

The "1" in the RELX "1+4" Scientific Research Chain refers to product quality. On the premise of ensuring product quality, we conduct scientific research through four major scientific research modules: physical and chemical research, toxicological research, clinical research and long-term impact assessment to promote product innovation and harm reduction.

Product Quality

We regard stable product quality and strict quality control as the premise of all scientific research. We established a quality assurance system that covers the entire product lifecycle to ensure that every step of the manufacturing process is under strict control . Product quality is always the priority when product quality conflicts with other processes.

Physical and Chemical Research

We monitor several indicators and impurity pollutants in e-liquids and systematically analyze the e-liquid contact materials' E&L (extractable and leachable). We pay attention to the content of various chemical components in aerosols, focusing on potential risk components in the release of these chemicals. We accumulate a large amount of data to provide basic information for quantitative risk assessment and other biological experiments and clinical scientific experiments. CNAS[1] has accredited the RELX Physical and Chemical Laboratory.

Clinical Research

To verify whether the harm reduction of our products for the human body is consistent with the research findings in the laboratory, we regularly track users in clinical research and monitor changes in various physiological indicators and relevant biomarkers in the body. We also research users' vaping behavior and nicotine pharmacokinetics. In addition, we further study the potentially harmful ingredients that clinical study participants may be exposed to, providing scientific evidence supports for subsequent product updates.

Toxicological Research

Our Life Science Laboratory conducts preclinical biological risk assessments of e-liquids and aerosols, including cytotoxicity, genotoxicity, acute toxicity testing in animals, and subacute toxicity testing in animals, to verify products' ability to reduce harm. By the end of 2021, we had published two papers in international journals demonstrating the inhalation safety and harm reduction of e-vapors. Moreover, we cooperate with universities and research institutes, to carry out scientific research on the harm reduction of e-vapors, to study the science of e-vapor from different dimensions, and continue to expand our understanding in this field.

Long-term Impact Assessment

We run long-term studies on the change of users' characteristics in the field of public health, predicting the mid-long term impact of e-vapor products on public health based on public health statistical analysis models and toxicological and clinical research results.

In March 2021, we published the first SCI paper in the Chinese e-vapor industry, "Acute and subacute inhalation toxicity assessment of WS-23 in Sprague–Dawley rats," on the Journal of Applied Toxicology. The paper proves the safety of the aerosol inhalation cooling agent WS-23 from the perspective of animal toxicology evaluation.

On July 3, 2021, Sun Yat-Sen University and we jointly published the paper "Comparison of biological and transcriptomic effects of conventional cigarette and e-vapor smoke exposure at a toxicological dose in BEAS-2B cells" on the SCI journal Ecotoxicology and Environmental Safety. Our study concludes that after 24 hours of acute exposure, the impact of aerosols agglutinates on a human lung epithelial cell line (BEAS-2B) is much less than that of cigarette smoke agglutinates. This study verifies the harm reduction potential of e-vapors at the cellular level.

1. CNAS (China National Accreditation Service for Conformity Assessment) is the only institution in China approved and authorized by the Certification and Accreditation Administration of the PRC to accredit national accreditation laboratories.

Product Harm Reduction

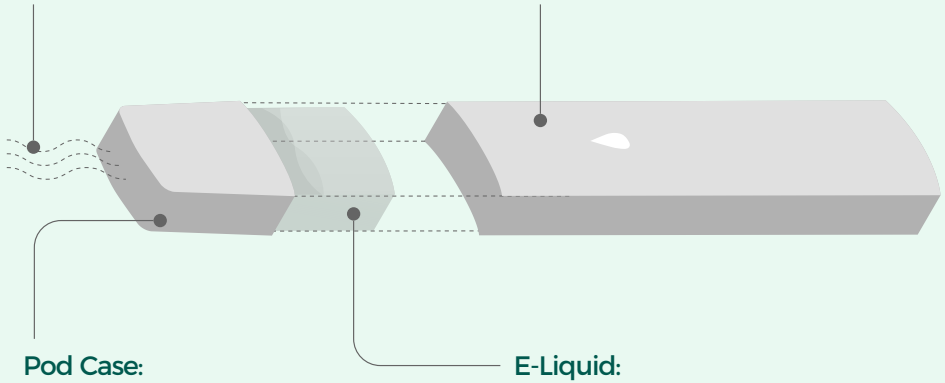
RELX does not involve the traditional tobacco business, and 100% of its main business incomecomes from the sales of e-vapors and related accessories. We have proven in scientific experiments that the number of harmful substances released by RELX products during use is much smaller than that of traditional tobacco.[1] Nevertheless, we still try to minimize potentially harmful substances in our products and provide users with safe and reliable products.

RELX Product Composition

Aerosol:

It is formed by heating and vaporizing the e-liquid.

Aluminum Case, Battery, and Chip



Pod Case:

Plastic, Coil, and Coil Resistance

E-Liquid:

The e-liquid is mainly composed of glycerin, propylene glycol, nicotine, and flavors, which are all of food-quality grade.

1. Compared with traditional tobacco, harmful substances such as benzene and four TSNAs (Tobacco-specific N-nitrosamines) were reduced by 99.1% and 99.8%, respectively.

According to the guidelines of international health organizations and regulators, laws, and regulations, we have identified more than 180 potentially high-risk chemicals in e-liquid, aerosols, and e-vapor device materials. Each new product must have the above indicators pass the test before entering the market. When designing an aerosol formulation, if we need to introduce a new substance, we will first conduct a toxicological analysis of the substance to verify its safety. We refer to the guidelines for medicine, medical device, and chemical risk assessment and retrieve and consult adequate scientific literature to fully understand the substance's toxicological properties. After that, we will set an allowable intake limit for the substance to control the content of potentially high-risk chemicals.

Potentially High-Risk Chemicals Identified by RELX

E-liquid

115 ITEMS

Including benzene series, aldosterone compounds, polycyclic aromatic hydrocarbons (PAHs), heavy metals, tobacco-specific nitrosamines (TSNA), phthalates (PAEs), and alcohols

Aerosol

85 ITEMS

Including carbonyl compounds, tobacco-specific nitrosamines (TSNAs), polycyclic aromatic hydrocarbons (PAHs), metal elements, volatile organic compounds (VOCs), other nitrosamines, and phenols

E-Vapor Device Materials

46 ITEMS

Including heavy metals, phthalates (PAEs), alcohols, phenols, and phthalic acid

According to relevant regulations and guidance documents of China and other countries and existing toxicological data, RELX has formulated the Regulations for Prohibited Substances in E-liquid for internal control. It includes 15 flavors, four types of phthalates, five types of acetals, and 39 types of additives. Moreover, to avoid introducing high-risk substances as much as possible, we also require our self-own factories and suppliers to prohibit the use of the following substances in the production process: 1) substances that claim to be healthy, increase energy or reduce hazards; 2) substances solely for dyeing purposes; 3) substances with carcinogenic, mutagenic, biological toxicity, or respiratory toxicity; 4) irritant compounds related to increasing vitality; 5) other addictive substances other than nicotine; and 6) substances that pose a risk to human health in therapeutic or non-therapeutic form.

CASE

The RELX Exploration Day

In the second half of 2021, we held four consecutive "See the invisible RELX - 2021 RELX Exploration Day" in Shenzhen. The event invited media representatives to visit the core departments such as the factory, the RELX Physiochemistry Lab, the RELX Sensory Analysis Lab, and after-sales testing center to get a zero-distance understanding of the whole process of product birth.

During the exploration day, we introduced to the media representatives the product R&D process, industry-leading production capacity, strict quality testing standards, sound after-sales guarantee system, and the RELX "1+4" scientific research chain and our research achievements.

Through the RELX Exploration Day, we also shared our work progress with the society, answered the public's concerns about the industry, built a better social link, and collected more information for product and service upgrade.

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2 | 3

1. Co-founder and Head of R&D and Supply Chain, Yilong Wen, explaining RELX's scientific research path to media representatives
2. Media representatives visiting the RELX Physiochemistry Lab
3. Media representatives visiting the RELX Sensory Analysis Lab