OLFACTORY TRADEMARKS IN MODERN IP REGIMES: A COMPARATIVE STUDY OF INDIAN LAW AND INTERNATIONAL APPROACHES TO SMELL MARK REGISTRATION

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ABSTRACT

Olfactory trademarks, commonly known as smell marks, represent one of the most challenging and conceptually complex frontiers in global trademark law. Unlike traditional trademarks—which operate comfortably within visual and auditory realms through words, logos, shapes, symbols, and sounds—smell marks depend entirely on non-visual sensory perception. This reliance on the human sense of smell introduces layers of legal and practical difficulty that test the fundamental limits of distinctiveness, graphical or clear representation, objectivity, and the inherent subjectivity of olfactory experience. As a result, smell marks push trademark jurisprudence into areas where science, technology, and law intersect more sharply than ever before[1].

Around the world, legal systems have diverged significantly in their treatment of olfactory marks. Some jurisdictions, such as the United States, have adopted comparatively flexible approaches focusing on consumer perception rather than rigid representational forms, whereas others—most notably the European Union—have traditionally imposed strict representational requirements that render registration nearly impossible. Only a very small number of smell marks have ever been successfully registered globally, and the challenges of describing, storing, comparing, and examining scents continue to limit broader acceptance.

Against this backdrop, **India's recognition of its first smell trademark in 2025** marks a landmark development in both sensory branding and trademark jurisprudence. The grant of registration to Sumitomo Rubber Industries Ltd. for a rose-like scent applied to tyres demonstrates not only the expanding scope of trademark protection in India but also the willingness of the Indian IP system to embrace scientific innovation. The acceptance of

[1] Irene Calboli and Martin Senftleben (eds), *The Protection of Non-Traditional Marks: Critical Perspectives* (OUP 2024) 89–102

a seven-dimensional olfactory representation model developed by IIIT-Allahabad provides a groundbreaking method for satisfying the statutory requirement of graphical or clear representation—an obstacle that has historically prevented the successful registration of smell marks in most jurisdictions.

This article therefore undertakes a comprehensive comparative analysis of olfactory trademark regulation across India, the United States, the European Union, the United Kingdom, Australia, and other influential jurisdictions. It examines the doctrinal foundations of scent-based trademarks, the practical and evidentiary burdens placed on applicants, and the technological advances that may transform how scent is conceptualized within trademark systems. Finally, it proposes pathways for harmonizing global standards, addressing representational challenges, and enabling a coherent international framework for future olfactory mark protection.

I. INTRODUCTION

Trademark law protects signs that enable consumers to identify and differentiate the commercial source of goods or services, thereby reducing search costs and preventing confusion in the marketplace. Traditionally, trademarks have consisted of visually perceptible elements—such as words, logos, symbols, shapes, and designs—because these signs lend themselves easily to stable representation, examination, publication, and enforcement. However, the twenty-first century marketplace has undergone a profound transformation. As commerce becomes increasingly immersive and experiential, brands now rely on *multi-sensory* identifiers designed to evoke emotional resonance, strengthen consumer recall, and create distinctive market positioning. Businesses are therefore turning to sensory cues such as smell, taste, touch, sound, and motion to enhance brand identity in ways that transcend traditional visual formats.

Within this expanding universe of non-conventional trademarks, **olfactory marks** represent the most complex, enigmatic, and least understood category. Unlike sound marks or color marks—which have achieved relatively stable recognition in many jurisdictions—smell marks challenge the core doctrinal boundaries of trademark law. Very few jurisdictions have accepted olfactory mark registrations, and an even smaller number have articulated a consistent, coherent methodology for evaluating them[2]. The obstacles are substantial: the

[2] Irene Calboli and Martin Senftleben (eds), *The Protection of Non-Traditional Marks: Critical Perspectives* (OUP 2024) 85–103

inherent *difficulty of graphical or objective representation*; the *subjective and variable nature of human scent perception*; the challenge of determining *whether a scent is inherently distinctive or merely descriptive*; and the risk of functionality, especially where a scent contributes to product performance or consumer expectations. These barriers have collectively limited the global development of olfactory trademark jurisprudence.[3]

Against this backdrop of international uncertainty**, India achieved a significant milestone in 2025** by officially recognizing an olfactory trademark for the first time. The registration of a rose-like scent applied to tyres—owned by Sumitomo Rubber Industries Ltd.—was made possible when the applicant introduced a scientifically grounded, seven-dimensional olfactory vector model developed by IIIT-Allahabad[4]. This innovative representation method translated a scent into quantifiable coordinates across multiple olfactory categories, enabling it to meet the statutory requirement of graphical or clear representation under Indian trademark law. India's acceptance of this cutting-edge scientific methodology marks a turning point, not only for domestic trademark practice but also for global non-conventional trademark jurisprudence, as it demonstrates a willingness to integrate technology and legal analysis in evaluating sensory marks.

This article therefore undertakes an in-depth examination of the conceptual foundations of olfactory trademarks, situates India's emerging jurisprudence within international developments, and compares the approaches adopted by jurisdictions such as the United States, the European Union, the United Kingdom, and Australia. By analyzing doctrinal challenges, practical constraints, and technological innovations, the article aims to propose a unified, forward-looking framework for the regulation of olfactory trademarks and to assess the potential for harmonizing global standards in the evolving landscape of sensory branding.

II. THE NATURE AND CONCEPT OF OLFACTORY TRADEMARKS

A. Definition and Scope

An olfactory trademark is a scent used to identify the source of goods or services. It must function like any traditional trademark by distinguishing one undertaking from

[3] WIPO, *Non-Traditional Trademarks: A Practical Overview* (WIPO 2019) https://www.wipo.int accessed 24 July 2025.
[4] Trade Marks Registry, Order No. TMR/DEL/SCH/2025/1784, at 1, 9–10 (Nov. 21, 2025)

another. Unlike word marks or logos, olfactory marks rely on the human sense of smell, making them inherently intangible and difficult to describe with precision.[5]

B. Unique Characteristics of Smell Marks

Smell marks exhibit several distinctive features that set them apart from traditional visual or auditory trademarks and contribute to the difficulty of their legal recognition.

1. **Intangibility**: Scent cannot be captured or displayed in a stable visual format. Its molecular structure does not convey how the scent is perceived, making representation a major challenge in trademark registration.

2. **Evocative Power**: Scents trigger strong emotional and memory-based associations. This makes them powerful tools for brand differentiation, especially in industries that rely on sensory or experiential marketing.

3. **Subjective Perception**: Individuals perceive scents differently due to biological, environmental, and cultural factors. This variability complicates the assessment of distinctiveness and consumer recognition.

4. **Technological Complexity**: Accurately identifying and representing scents requires sophisticated scientific techniques. Unlike colors or sounds, scents lack a standardized representational system, making the process both complex and resource intensive.

C. Applications in Commerce

Industries such as hospitality, aviation, retail, and consumer goods have adopted signature scents to enhance brand identity. Sumitomo Rubber's rose-scented tyres exemplify how scent can differentiate products even in traditionally non-sensory markets.

III. LEGAL REQUIREMENTS FOR OLFACTORY TRADEMARK REGISTRATION

Although trademark laws differ across jurisdictions, olfactory marks must satisfy a set of fundamental requirements that apply to all trademarks. Because scents behave differently from

[5] *Sieckmann v. Deutsches Patent- und Markenamt*, Case C-273/00, 2002 E.C.R. I-11737

visual or auditory signs, applying these traditional requirements to olfactory marks often exposes doctrinal gaps and practical difficulties. The three key requirements—distinctiveness, representation, and non-functionality—form the backbone of global olfactory trademark jurisprudence.

A. Distinctiveness

For an olfactory mark to be registrable, the scent must function as an indicator of commercial origin. This means the fragrance must not be **inherent, natural, or commonly associated** with the product. Distinctiveness is particularly challenging for scent marks because consumers do not typically perceive smells as trademarks.

Arbitrary or fanciful scents—those with no logical connection to the goods—are far more likely to be recognized as trademarks. For instance, a **floral fragrance applied to tyres** is inherently distinctive because consumers would not expect tyres to possess such a scent. In contrast, fragrances that are customary, descriptive, or serve a practical purpose—such as **lemon or citrus scents in cleaning products**—generally fail to meet the distinctiveness requirement. Applicants often must provide evidence of **acquired distinctiveness**, showing that consumers associate a particular scent with a single commercial source.

B. Representation Requirements

Historically, one of the greatest hurdles for olfactory trademarks has been the requirement that every mark be represented in a **clear, precise, self-contained, and durable** manner in the trademark register. For decades, many jurisdictions required **graphical representation**, a standard that written descriptions, chemical formulas, and scent samples were unable to satisfy. **Written descriptions** were deemed too subjective and vague; **Chemical formulas** indicate molecular composition but do not convey how a scent is perceived and **Scent samples** degrade over time and cannot serve as permanent representations.

This issue was most famously highlighted in the European Union's **Sieckmann** decision[6], in which the CJEU rejected all conventional methods of

[6] *Sieckmann v. Deutsches Patent- und Markenamt*, Case C-273/00, 2002 E.C.R. I-11737

scent representation and set stringent criteria that effectively barred olfactory marks for many years. Although several jurisdictions—including the EU—have since removed the graphical representation requirement, trademark offices still struggle to accept alternative scientific models due to concerns around standardization and accessibility. As a result, the representation requirement remains a major barrier to smell mark registration worldwide.

C. Non-functionality

A fundamental rule of trademark law is that a sign cannot be protected if it is functional. This principle applies equally to olfactory marks. A scent is considered functional if it masks an unpleasant natural odor of the product, contributes to the product's performance, quality, or utility, or is expected by consumers for that type of goods.[7]

For example, adding a pleasant scent to products like air fresheners or soaps would likely be deemed functional because the scent contributes to consumer expectations and product performance. In contrast, a scent applied solely for branding purposes—as in the case of rose-scented tyres—meets the non-functionality requirement because it serves no utilitarian role.

Together, these three requirements—distinctiveness, representational clarity, and non-functionality—define the legal landscape for olfactory trademarks. They also explain why only a handful of smell marks have been registered globally and why jurisdictions continue to debate how to adapt traditional trademark doctrines to accommodate non-traditional sensory marks.

IV. INDIA'S FIRST OLFACTORY TRADEMARK: A NEW LEGAL FRONTIER

The registration of **"a floral fragrance / smell reminiscent of roses as applied to tyres"** by Sumitomo Rubber Industries Ltd. marks India's entry into global olfactory trademark practice.[8]

A. The Application and Its Challenges

The Trademarks Registry objected to the application citing: lack of graphical representation, and lack of inherent distinctiveness. [9]These objections reflect long-standing statutory

[7] J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* § 7:63 (5th ed. 2023)
[9] *Trade Marks Registry, Order No. TMR/DEL/SCH/2025/1784, at 1, 9–10 (Nov. 21, 2025)*

challenges under 2(1)(zb) and 9(1)(a) of the Trade Marks Act, 1999.

B. Overcoming the Graphical Representation Requirement

One of the most significant hurdles in the registration of olfactory trademarks—both in India and globally—has been the requirement that a mark be capable of clear and objective representation. Traditional forms of graphical representation, such as diagrams, images, or written descriptions, cannot adequately capture the perceptual experience of scent. This long-standing barrier was effectively addressed for the first time in India when researchers from IIIT-Allahabad introduced an innovative **seven-dimensional olfactory vector model** during the evaluation of Sumitomo Rubber Industries' application.

This scientific model broke new ground by translating the rose-like fragrance into a **series of measurable coordinates that quantified the scent across seven fundamental olfactory categories: floral, fruity, woody, nutty, pungent, sweet, and minty.** By doing so, it provided an analytical framework capable of representing scent with a degree of precision, objectivity, and reproducibility previously unavailable in trademark practice. Each dimension captured the intensity or presence of a particular olfactory profile, allowing the scent to be understood not merely as a subjective experience but as a scientifically quantifiable vector.[10]

This approach enabled the Trademarks Registry to conclude that the representation was sufficiently **clear, precise, intelligible, durable, and objective,** thus fulfilling the statutory requirement under § 2(1)(zb) of the Trade Marks Act, 1999. The adoption of this model marks an unprecedented moment in Indian trademark law and represents one of the first instances globally where a scientific methodology has been successfully used to satisfy the graphical—or representational—requirement for a smell mark.

C. Distinctiveness and Arbitrary Use

Another central issue in the evaluation of olfactory trademarks is the question of **distinctiveness**, which requires that a mark serve as a reliable indicator of commercial origin. In the case of Sumitomo's rose-scented tyres, the rose fragrance bore **no functional or natural connection** to the goods in question. Tyres typically emit a rubber-based odour, and a floral scent is entirely foreign to their nature, use, or composition. This stark contrast between

[10] Richard Axel & Linda B. Buck, *The Molecular Basis of Odor Recognition*, 82 Cell 193, 193–95 (1995)

the expected odour of tyres and the introduced floral scent amplified the mark's distinctiveness[11].

The Registry noted that, because consumers do not ordinarily associate tyres with any pleasant or identifiable scent, the presence of a rose-like fragrance would be immediately noticeable and memorable to the average consumer. This uncommon and arbitrary application of a floral scent to tyres made the fragrance uniquely capable of performing a source-identifying function. Consequently, the Registry determined that the scent possessed the requisite inherent distinctiveness to qualify for trademark protection, aligning with broader principles of trademark law that favor the registrability of arbitrary and fanciful marks.

D. India's Doctrinal Shift

The acceptance of India's first olfactory mark signifies a marked doctrinal evolution within Indian trademark jurisprudence. It reflects a growing:

1. **Judicial openness to scientific tools:**

   The Registry's willingness to rely on a multi-dimensional olfactory model demonstrates a recognition that emerging technologies can meaningfully assist in interpreting legal requirements in fields where traditional methods fall short.

2. **Willingness to embrace non-conventional trademarks:**

   By accepting a smell mark, India joins the limited number of jurisdictions that have moved beyond traditional visual or aural marks to protect sensory indicators such as scent. This shift reflects an understanding that modern branding strategies increasingly rely on multi-sensory engagement.

3. **Alignment with TRIPS obligations:**

   The decision reinforces India's commitment to Article 15 of the TRIPS Agreement, which mandates protection for *any sign* capable of distinguishing goods or services—without restricting trademarks to visually perceptible forms. By recognizing an

[11] J Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* (5th edn, Thomson Reuters 2023) vol 3, §§7:47–7:49

olfactory mark, India demonstrates conformity with international intellectual property norms and enhances the flexibility of its trademark framework.[12]

Collectively, these developments signal a progressive shift toward a more adaptive and technologically integrated approach to trademark protection in India, positioning the country as a leader in the evolving landscape of sensory trademarks.

V. INTERNATIONAL APPROACHES TO OLFACTORY TRADEMARKS

A. **United States:** The United States adopts one of the most flexible and progressive approaches to non-traditional trademarks, including olfactory marks. Under U.S. trademark law, **graphical representation is not required**, and the USPTO accepts a **clear and specific written description** of the scent as a sufficient representation. [13]This flexibility stems from the broader statutory interpretation of "any word, name, symbol, or device," which has been held to include non-visual indicators so long as they function as source identifiers.

The landmark case, ***In re Clarke***, set the foundation for olfactory trademark protection in the U.S. In that case, the Trademark Trial and Appeal Board (TTAB) recognized the scent of **plumeria blossoms** for sewing thread. The Board emphasized that the key inquiry is **consumer association**—that is, whether the public perceives the scent as identifying and distinguishing the source of the goods—rather than the form in which the scent is represented to the USPTO.

However, the threshold for registrability remains high. The applicant must demonstrate:

1. **Non-functionality** – the scent must not be essential to the use or purpose of the product nor affect its cost or quality; and

2. **Acquired distinctiveness (secondary meaning)** – evidence showing that consumers associate the scent with a single source.

Because these requirements are stringent, smell mark registrations in the United States

[12] Agreement on Trade-Related Aspects of Intellectual Property Rights art. 15(1), Apr. 15, 1994, 1869 U.N.T.S. 299

[13] J Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* (5th edn, Thomson Reuters 2023) vol 3, §§7:45–7:47.

remain rare, but the legal framework remains comparatively welcoming.

B. **European Union:** The European Union historically adopted the strictest approach to smell marks, largely due to the **Sieckmann** decision, in which the Court of Justice of the European Union (CJEU) held that a scent cannot be registered unless it is represented in a manner that is **clear, precise, self-contained, easily accessible, intelligible, durable, and objective**.[14] Chemical formulas, scent samples, and written descriptions all failed this test. As a result, for many years, olfactory marks were considered practically impossible to register within the EU. In 2017, the EU Trademark Reform Package removed the **graphical representation requirement**, theoretically opening the door to more flexible forms of representation, such as digital files or scientific data. However, despite this reform, the EUIPO continues to reject nearly all olfactory trademark applications. The core obstacle remains applicants struggle to provide a representation that satisfies the strict clarity and precision criteria, and the EUIPO has yet to accept any scientific olfactory-mapping method comparable to the one adopted in India. Thus, while the EU has modernized its statutory language, **practical acceptance of smell marks remains nearly nonexistent**.[15]

C. **United Kingdom:** The United Kingdom is one of the very few jurisdictions with a successfully registered olfactory trademark. In 1996, the UKIPO approved the registration of **Sumitomo Rubber Industries' rose-scented tyres**, marking one of the earliest global recognitions of a smell mark. This registration is historically significant because it demonstrated that a **simple written description** "a strong smell of roses applied to tyres" could satisfy the representation requirement under UK law at that time.[16]

This early UK precedent played an important role decades later in India's own evaluation of Sumitomo's scent-mark application. The applicant relied heavily on this prior registration to demonstrate inherent distinctiveness and international recognition of the scent mark. Despite this early openness, however, the UK has not registered additional olfactory marks since, reflecting continued caution in the realm of non-

[14] *Sieckmann v Deutsches Patent- und Markenamt* (C-273/00) [2002] ECR I-11737, para 55
[15] Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union Trade Mark [2017] OJ L154/1
[16] Ilanah Fh Genge and Dev S Gangjee, *Intellectual Property Law* (4th edn, OUP 2023) 142–145;

conventional marks.

D. **Australia:** Australia recognizes the theoretical registrability of scent marks under the Trademarks Act 1995[17], which defines a trademark broadly enough to include non-visible signs. In practice, however, the threshold for distinctiveness remains high. Applicants must demonstrate that consumers perceive the scent—not as a product attribute—but as a **badge of origin.** A frequently cited example is the failed application for **eucalyptus-scented golf tees**, which the IP Australia rejected on the ground that the scent lacked inherent or acquired distinctiveness. [18]Since eucalyptus is a common and expected scent in Australian products, the office held that consumers would not perceive it as source-identifying. Overall, Australia's framework is open in theory but conservative in practice, with no successful smell registrations to date.

E. **Canada, Singapore, and Other Common Law Jurisdictions:** Several common law jurisdictions—such as Canada, Singapore, and New Zealand—have trademark statutes that permit the registration of non-traditional marks, including scents. Their definitions of a trademark typically refer to "a sign" capable of distinguishing goods or services, without expressly limiting protection to visual marks.

   However, **none of these jurisdictions has yet granted an olfactory trademark**. The reasons generally mirror those found elsewhere: difficulties in representing scents in a clear and durable manner, challenges in proving distinctiveness, and the relative novelty of scent-based branding. Trademark offices in these countries continue to apply representational and evidentiary standards that are ill suited to olfactory marks.

   Thus, although the statutory frameworks may permit smell marks, **practical registrability remains extremely limited** in these jurisdictions.

VI. KEY CHALLENGES IN REGULATING OLFACTORY MARKS

The regulation of olfactory trademarks presents a set of challenges that differ significantly from those associated with traditional visual or auditory marks. These challenges stem from the

[17] Trade Marks Act 1995 (Cth) s 17;
IP Australia, *Trade Marks Office Manual of Practice and Procedure* (IP Australia, updated 2024)
[18] https://www.ipaustralia.gov.au accessed 24 July 2025;
Re Eucalyptus Scented Golf Tees (Application No. 764860, IP Australia, 1998) (refusing registration for lack of distinctiveness)

scientific complexity of scent, the limitations of existing legal frameworks, and the evolving nature of consumer perception.

A. Representational Precision

Scent is inherently ephemeral, chemically complex, and perceptually variable. Unlike visual marks, which can be captured through graphic designs, or sound marks, which can be recorded and notated, scents resist fixed representation. Without advanced analytical tools such as gas chromatography, mass spectrometry, or multidimensional scent-mapping models, it is difficult to depict a scent in a manner that meets the legal standards of clarity, precision, and objectivity. This lack of a universally accepted representational system has historically been a central barrier to olfactory mark registration.[19]

B. Consumer Perception

Consumers do not typically expect scents to serve as trademarks. Branding norms have conditioned purchasers to associate trademarks with visual or auditory cues, making it more difficult for a scent to function as an indicator of commercial origin. Moreover, because individuals vary in their sensitivity to scents—and may not consciously register olfactory stimuli—the threshold for establishing distinctiveness and recognition is inherently higher for smell marks compared to traditional marks.

C. Stability of Scent Samples

Physical scent samples, even if deposited with a trademark office, degrade over time due to evaporation, oxidation, and environmental exposure. Their impermanence makes them unsuitable as long-term reference points in trademark registries, which require marks to remain stable and accessible for examination, enforcement, and comparison. This instability underscores the need for technological or scientific representational methods if olfactory trademarks are to be reliably administered.

D. Technological Dependence

Advanced scientific models—such as the IIIT-Allahabad seven-dimensional olfactory

[19] Dev S Gangjee, 'Non-Conventional Marks: An Overview' in Irene Calboli and Martin Senftleben (eds), *The Protection of Non-Traditional Marks: Critical Perspectives* (OUP 2024) 89–103

vector—offer promising solutions but introduce new challenges. [20]They require specialized expertise, complex analytical equipment, and technical interpretation that may not be uniformly available across all jurisdictions or accessible to all applicants. This reliance on sophisticated technology raises concerns about unequal access, increased registration costs, and potential inconsistencies in the application of legal standards across different regions or examiners.

VIII. RECOMMENDATIONS FOR FUTURE REGULATORY DEVELOPMENT

As commercialization increasingly relies on multi-sensory branding, trademark systems worldwide must adapt to effectively accommodate olfactory marks. India's recent progress highlights the need for broader regulatory modernization. The following recommendations outline pathways to establish clarity, consistency, and technological coherence in scent trademark administration.

A. Adoption of Technology-Based Representation Standards

To address long-standing challenges around graphical or clear representation, regulators should formally recognize and codify scientific olfactory models—such as multidimensional scent vectors, chromatographic profiles, or digital olfactory signatures—as acceptable forms of trademark representation. These technologically driven methods can provide objective, reproducible, and durable markers that meet statutory standards. Codification would also create predictability for applicants and examiners by clarifying what constitutes an acceptable representation. As scientific tools become more accessible, such standards may help bridge the gap between legal doctrine and sensory science.

B. Harmonisation Through International Bodies

Olfactory marks remain hampered by fragmented global recognition. International bodies such as WIPO and the WTO TRIPS Council are well-positioned to facilitate harmonization by developing **standardized guidelines** for scent representation, examination criteria, and registrability thresholds. [21]Uniform global standards would reduce inconsistencies across jurisdictions, streamline cross-border filings, and promote legal certainty for international brands. Harmonisation would also help ensure that technologically advanced representational

[20] *Trade Marks Registry, Order No. TMR/DEL/SCH/2025/1784, at 1, 9–10 (Nov. 21, 2025)*
[21] WIPO, *Non-Traditional Marks: Overview of Current Practices* (WIPO, 2019) https://www.wipo.int accessed 24 July 2025

models—like India's smell-space vector—are accepted consistently across trademark offices worldwide.

C. Examiner Training

Trademark examiners must be equipped to evaluate non-conventional trademarks, particularly those involving complex sensory elements. Training programs in olfactory perception, scent chemistry, and the scientific principles underlying scent-representation models would enhance examiners' ability to assess the distinctiveness, functionality, and clarity of smell marks. Such training would also foster consistency in examination outcomes and reduce examiner reliance on outdated or overly restrictive interpretations of trademark requirements. As sensory trademarks proliferate, continuous professional development will be essential.

D. Public Registries of Scent Profiles

To promote transparency and facilitate effective comparison during examination, countries may develop and maintain digital databases of scent profiles submitted for trademark protection. These registries would function similarly to existing image or sound databases but would store scientifically generated scent vectors or chromatographic profiles. Such repositories would help prevent conflicts between similar scents, assist examiners in assessing distinctiveness, and make the trademark system more navigable for applicants. Over time, an international olfactory registry—potentially coordinated by WIPO—could further global harmonization efforts.

IX. CONCLUSION

Olfactory marks represent one of the most cutting-edge and intellectually stimulating dimensions of modern trademark law. They challenge long-standing legal doctrines that were developed primarily for visually perceptible marks, pushing trademark systems to confront the limits of representation, distinctiveness, and consumer perception. At the same time, they offer immense commercial potential in an era where businesses increasingly seek to differentiate themselves through immersive and multi-sensory branding strategies. As firms continue to explore innovative ways of shaping consumer experiences, scent is emerging as a powerful yet underutilized tool with the capacity to strengthen brand identity and enhance market differentiation.

India's recognition of its first olfactory mark in 2025—facilitated by a pioneering scientific graphical model developed by IIIT-Allahabad—marks a pivotal moment in global intellectual property discourse. By accepting a seven-dimensional olfactory vector as a legitimate form of representation, India has demonstrated an adaptive and forward-looking approach to trademark law. This development not only addresses long-standing doctrinal barriers but also illustrates how legal systems can harness scientific advancements to modernize trademark examination and accommodate new forms of brand expression. India's decision thus sets an important precedent for other jurisdictions struggling with similar representational challenges.

As global trademark regimes grapple with the complexities of scent-based branding, India's approach provides a compelling model for integrating technology, legal doctrine, and commercial realities. The successful registration of an olfactory mark in India illustrates the feasibility of reconciling scientific objectivity with the statutory requirements of clarity, precision, and intelligibility—a balance that many jurisdictions have yet to achieve. It also highlights the need for trademark law to evolve in response to technological and market transformations rather than remain bound by traditional limitations.

Looking forward, the future of olfactory trademarks in modern IP regimes will be shaped by three critical factors: **international harmonisation, scientific progress, and doctrinal clarity.** Harmonised standards, developed through bodies such as WIPO and the TRIPS Council, will be essential to overcoming the fragmentation that currently characterizes global olfactory trademark jurisprudence. Ultimately, India's leadership in recognizing and scientifically representing olfactory marks offers a blueprint for reimagining trademark law in an increasingly multi-sensory commercial environment. By embracing technological innovation and acknowledging the evolving nature of brand communication, India has positioned itself at the forefront of sensory trademark jurisprudence. This adaptive approach will likely influence global developments and may shape the trajectory of non-conventional trademark protection for years to come.