

# FemTech Industry Analytical Framework



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FemTech  
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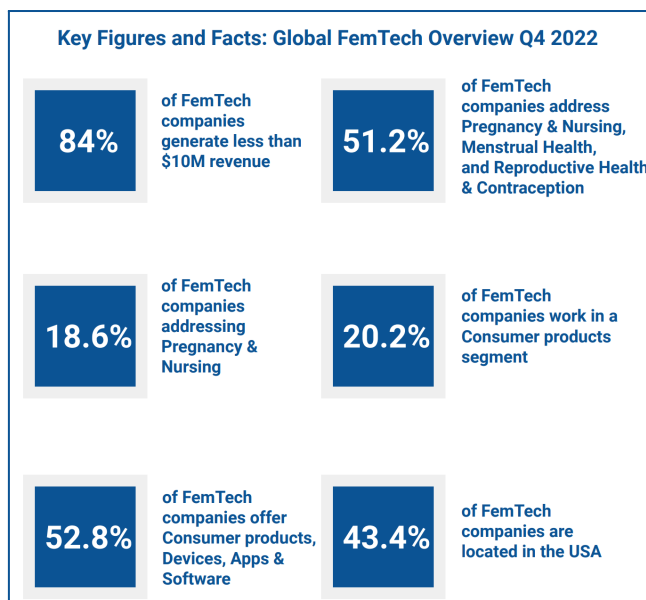
# Introduction

[FemTech Analytics](#) (FTA) in cooperation with the [Data Science Division of Deep Knowledge Group](#) (DKG) has published a new [FemTech Industry Analytical Framework](#), constituting the most comprehensive classification system for FemTech Industry analysis to date. The framework has been published in an open-access format to better serve the needs of FemTech industry participants and decision makers dedicated to developing technology-based products and services that cater specifically to the health needs and wellness of women.

Deep Knowledge Group views the FemTech Industry as a viable investment opportunity due to an ongoing trend of diversification in preventive health and Personalized Medicine. Since 2021, the Group's subsidiary FemTech Analytics has been producing regular analytical reports on key FemTech topics, including ratings of companies and governments based on their innovation potential and business activity in the FemTech sphere as well as providing strategic consulting and investment intelligence services.

FemTech (Female Technology) is technology empowering women's health and well-being. This term is often applied to products, services, software applications, medical devices, telehealth, wearables, hardware, therapeutic drugs, vitamins and supplements, digital platforms, and consumer products designed to improve or support women's health.

## FemTech Key Figures and Facts



Source: [FemTech Industry Landscape Overview Q4 2022](#)



[In 2023, women made up 49.5% of the world's population](#), and they play many important roles in modern society. However, historically, medical research has not prioritized health issues specific to women, a precedent that has had a lasting impact on the quality of healthcare available to women.

One of the reasons women's healthcare has been ignored for so long by the powerful is that many women's healthcare needs have fallen in the realm of taboo: menstruation, incontinence, menopause, and plain aging were not popular topics for discussion.

In addition to a taboo status and a lower position on the totem pole of priorities, many women's healthcare needs also fall into the political rather than the technological domain – access to birth control, abortion, and sex education, for example. And so the key area of reform has traditionally been policy rather than technology.

This began to change with a burst of technological solutions in the 2010s being developed to address the healthcare needs of modern women. Thus emerged a new tech sector – FemTech.

Products in this market include everything from fertility tracking apps to period-tracking underwear. In recent years, there has been a surge in investment in FemTech companies. Investments are only expected to grow in the coming years as more and more people become aware of the importance of women's health. The FemTech market presents a huge potential for entrepreneurs and investors alike. With its vast tendency for growth, it is an exciting time to be involved in this rapidly developing industry.

Per FemTech Analytics, as of the end of 2022, the industry comprised over **1,800 companies, 1,900 investors, 30 R&D centers**, and 30 hubs and communities in all FemTech subsectors. Rapid growth of participants in the FemTech sector earmarks the sector as a highly competitive part of the Longevity Industry.

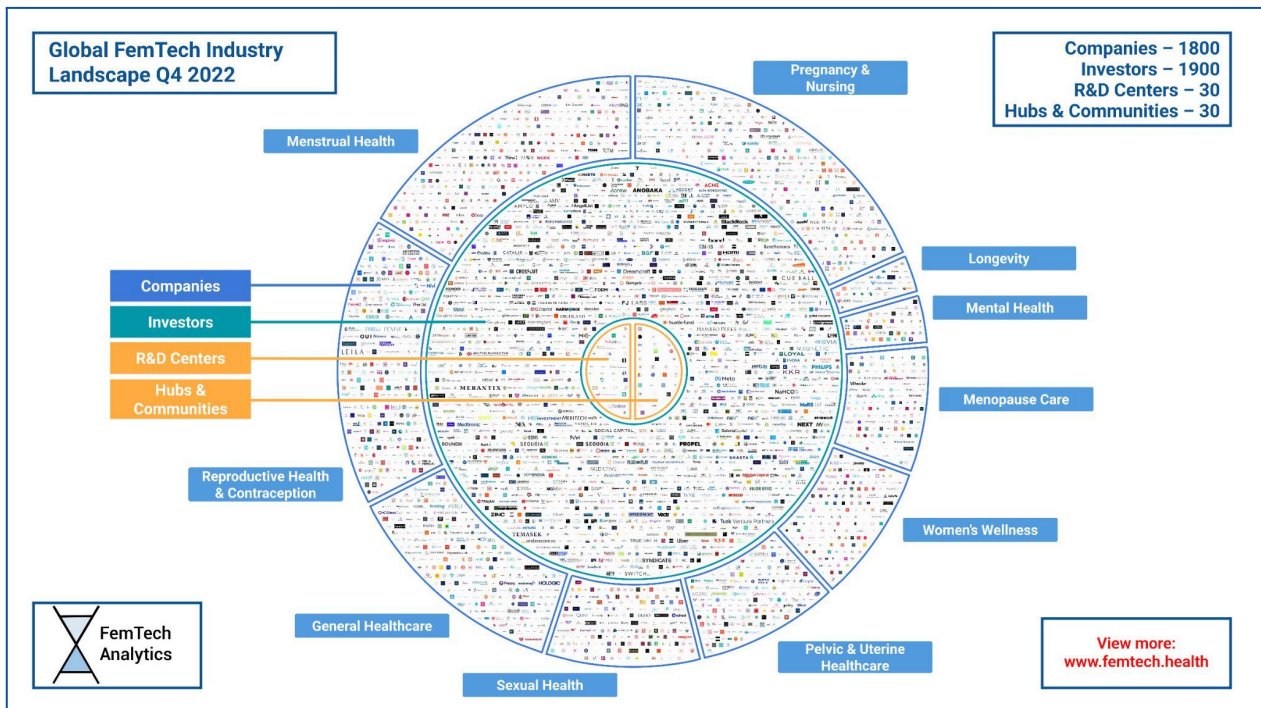
Investors have begun to take an interest in its fertility-related sectors such as embryo scanning, egg storage, and reproduction. Advancements in service development technologies have improved its potential in basic research and clinical applications.

The key focus areas include reproductive health, pregnancy and nursing, menstrual and sexual health.

In recent years, there have been numerous R&D advances in female healthcare areas not covered previously in the required depth. For instance, Longevity, menopause solutions, tracking apps, sexual healthcare, and mental health are just some of the new areas of focus in FemTech. As it evolved, FemTech has ceased to be a merely reproductive concept and become one that encompasses a wide range of health

issues disproportionately affecting women (e.g., Alzheimer’s, immunodeficiencies, or pain management solutions).

## Global FemTech Ecosystem



Source: [FemTech Industry Landscape Q4 2022](#)

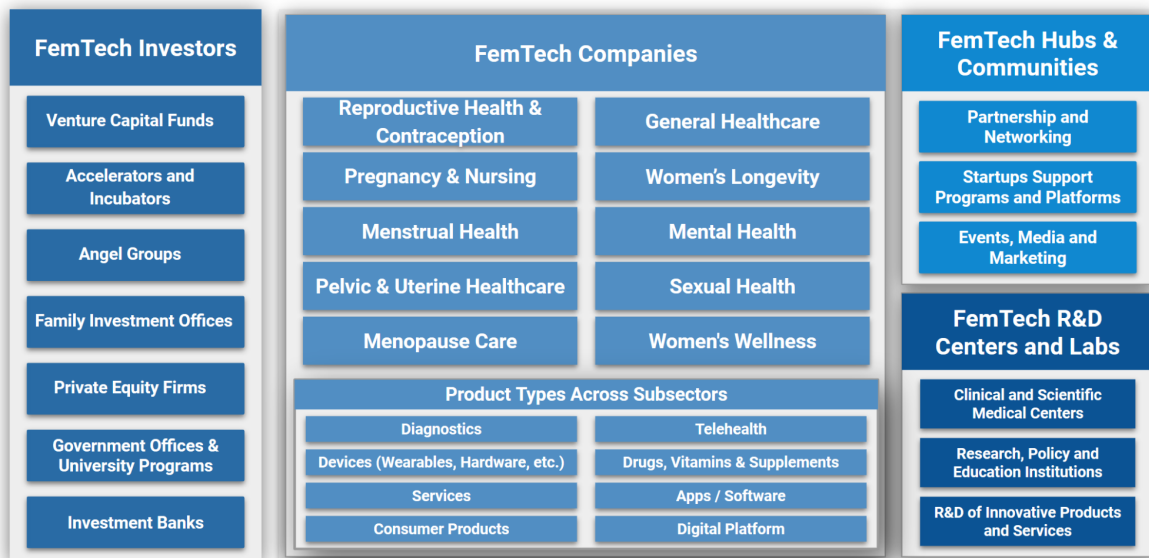
The FemTech sector primarily addresses women’s health, including consumer products such as innovative femcare, a wide range of devices addressing sexual health and reproductive health along with software and apps for pregnancy and nursing care, women’s wellness, Longevity, and menstrual health. Products for dealing with menstrual flow – such as reusable absorbent underwear, the reusable cup, and flushable pads – are now competing to provide the safest, most convenient, affordable, and environmentally friendly option to the hundreds of millions of people worldwide who are actively in need of them.

**Per our classification, FemTech comprises 10 subsectors: Menstrual Health, Reproductive Health and Contraception, Women’s Longevity, Pregnancy and Nursing, General Healthcare, Mental Health, Menopause Care, Sexual Health, Pelvic and Uterine Healthcare, and Women’s Wellness.**

**General Healthcare** includes health promotion, preventive care (immunization, general health screening), hormonal health, treatment of acute and chronic illness, autoimmune diseases, breast and ovarian cancer, and appropriate referral for more specialized needs where required. Also this subsector includes testing through the women’s healthspan. Some examples are osteoporosis testing, breast and cervical cancer testing, infectious disease testing, ultrasound tests. The category embraces any health conditions, not included in other specific subsector.

**Sexual Health** companies focus on the physical, emotional, mental, and social well-being related to sexuality and sex and intimate hygiene. Sexual health is another area continuing to emerge with new mobile app solutions to help women obtain contraception, innovative hardware to achieve orgasms, prevent, test and treat STDs, and access sex education tools and resources.

### FemTech Industry Framework



**Menstrual Health** includes products, services, and initiatives that address issues of those who menstruate through the four phases of the menstrual cycle (menstruation, the follicular, ovulation, and the luteal phase) to achieve the complete physical, mental, and social well-being. This category also considers femcare products such as innovative, natural, and sustainable hygienic pads, tampons, cups, period-proof underwear, etc.

**Reproductive Health and Contraception** includes fertility solutions and tracking, contraception, at-home fertility monitoring, ovulation and pregnancy testing, products and services for Polycystic Ovary Syndrome (PCOS) patients addressing infertility, software and applications to improve women's reproductive health and fertility knowledge.

**Pregnancy and Nursing** includes a variety of solutions on maternal, fetal, neonatal health to assist throughout the pregnancy and post-natal period and help to be connected to healthcare professionals. The category includes solutions addressing the decrease of maternal and child mortality, preterm births; prenatal genetic screening and carrier testing; physical and mental female wellness during pregnancy, postpartum, and parenting; education on pregnancy and lactation; and tracking of feeding time and health of the child.

**Pelvic and Uterine Healthcare** includes solutions to improve pelvic organs as it plays an important role in complete physical, mental, social, and sexual well-being. The subsector includes preventive care, treatment, diagnostics, testing, and screening of pelvic organs (uterus, cervix, ovaries). Conditions are, but not limited to: prolapse of the organs, problems with bladder and bowel function, weakening of pelvic muscles and connective tissues, cancers, endometriosis, incontinence, and others affecting the proper function of a woman's pelvic organs.

**Mental Health** includes technologies and software to improve emotional, psychological, and social well-being. It affects how women's think, feel, and act. These companies also help determine how women handle stress, relate to others, and make choices as well as empowerment solutions.

**Menopause Care** includes FemTech start-ups that address the symptoms of menopause in innovative ways to improve life for those who are experiencing menopause, as well as better predict when it is likely to hit the menopause phases, how menopause could be affected due to experiences in other life phases (menstruation, fertility, pregnancy, etc.), and better community support for those who are experiencing menopause.

**Women's Longevity** includes technologies and software to advance women's healthspan and increase Longevity such as solutions for detection, monitoring, and treatment of chronic diseases, as well as biometrics and lifestyle solutions.

**Women's Wellness** includes innovative femcare (except products for menstruation) products, nutrition and fitness solutions, and products and companies that encourage a holistic approach to wellness. Nutrition and Fitness comprises solutions specifically for women, with a focus on body positivity, fitness apps that adjust workouts to health phases, and nutritional programs/apps specific to women's health realities. Examples are an app that provides workouts as it adapts to the phase of a menstrual cycle or an app that assists with nutrition for those who have PCOS and endometriosis.

**In 2022, this Industry Analytical Framework formed the basis of the Global FemTech Ecosystem, tracking the status of the thousands of FemTech entities mentioned above which comprise this upstart industry, and is being used as the basis for constructing the upcoming Global FemTech Big Data Analytics Dashboard, to be launched by the [Data Science Division of Deep Knowledge Group](#) in June 2023.**

FemTech Analytics' [Global FemTech Ecosystem](#) already delivers interactive market overview figures, interactive mindmaps, and reports, which are being further developed to include benchmarking for companies, investors, and technologies, and competitive and SWOT analysis in the upcoming Global FemTech Big Data Analytics Dashboard.

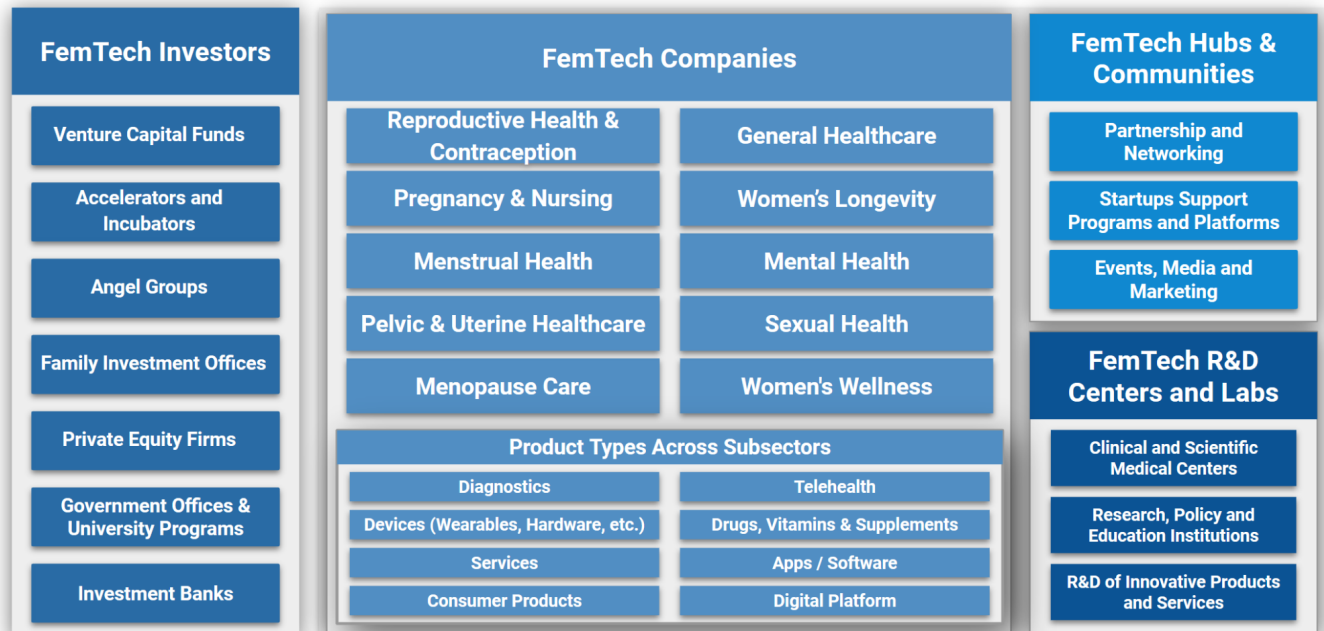




Global FemTech Big Data Analytics Dashboard (to be launched in June 2023)

The remainder of this document outlines the framework that makes this possible.

# FemTech Industry Analytical Framework



The FemTech industry, which is focused on developing technology-based solutions to address women's health and wellness needs, is rapidly growing and evolving. To better understand this industry and how it operates, we can examine its framework, which consists of four main segments: FemTech Investors, FemTech Companies, FemTech Hubs & Communities, and FemTech R&D Centers and Labs.

As the industry continues to grow, the FemTech Industry Framework is also evolving to better reflect the changing landscape. New players are entering the market, and existing companies are expanding their offerings or shifting their focus to better address the needs of women. For example, in recent years, there has been a surge in FemTech start-ups that focus on menopause, a stage of life that has been historically underserved by the healthcare industry. These companies are developing products and services to help women manage symptoms such as hot flashes, mood swings, and vaginal dryness, using technology-based solutions such as wearables, apps, and telemedicine.

In addition, there is growing recognition of the importance of diversity and inclusion in the FemTech industry, with a focus on ensuring that products and solutions are developed with input from women of all backgrounds and experiences. This includes efforts to address bias in data collection and analysis, as well as initiatives to promote greater representation of women in leadership roles within FemTech companies.

Overall, the FemTech industry is a rapidly evolving and dynamic space, driven by innovation and a commitment to improving women's health and wellness. As the industry continues to grow and change, the FemTech Industry Framework will continue to adapt and evolve to reflect the latest developments and trends.

# FemTech Industry Analytical Framework: Segments

## FemTech Companies

FemTech companies are businesses that create technology products and services that cater specifically to the health and wellness needs of women. These companies often focus on addressing issues that have traditionally been overlooked or stigmatized in the healthcare industry.

FemTech companies cover a wide range of areas, including reproductive health, maternal health, sexual wellness, general wellness, and more. Some examples of FemTech products and services include fertility tracking apps, period tracking apps, pregnancy monitoring devices, breast pumps, pelvic floor trainers, and sexual health products.

## Reproductive Health & Contraception

The Reproductive Health & Contraception segment of FemTech covers a range of products and services. These include fertility and infertility care and treatment, ovulation monitoring, pregnancy testing, ovarian reserve diagnostics, and novel contraception and birth control products.

Assisted reproductive technologies such as artificial insemination, in vitro fertilization (IVF), and intracytoplasmic sperm injection (ICSI) are also part of this segment. Egg and embryo testing, freezing, and preservation, frozen embryo transfer (FET), and egg donation are additional services provided.

In addition, there are digital tools available to improve women's education and knowledge on reproductive health, connect with peer communities, and overcome challenges.

Products within this subsector range from in-clinic services and procedures to at-home fertility care platforms, medical devices, wearables, tests, apps, teleconsultation, consumer products, drugs, vitamins, and supplements. The Reproductive Health & Contraception segment of FemTech is a crucial area that addresses a range of issues related to women's reproductive health and family planning.



## Menstrual Health

The Menstrual Health segment of FemTech encompasses products, services, and initiatives that address the needs of menstruators throughout the four phases of the menstrual cycle. The goal is to achieve complete physical, mental, and social well-being.

This segment includes a range of menstrual femcare products such as innovative, natural, and sustainable hygienic pads, tampons, cups, period-proof underwear, and more. Additionally, this segment considers sanitary waste solutions to address the environmental impact of menstrual products.

The Menstrual Health subsector encompasses a range of product types, including consumer products such as subscription-based home delivery kits, dispensers for public spaces, period tracking apps, and wearables for period pain relief and cycle tracking. Medical devices for the treatment of Heavy Menstrual Bleeding (HMB) and monitoring vaginal effluents are also included, as well as educational digital platforms, drugs, vitamins, and supplements, and virtual and in-clinic services.

Overall, the Menstrual Health segment of FemTech plays a crucial role in improving the well-being of menstruators by providing them with innovative and sustainable products and services that address their specific needs throughout the menstrual cycle.

## Pregnancy & Nursing

The Pregnancy & Nursing segment of FemTech provides a range of solutions focused on maternal, fetal, neonatal, and child health. These solutions assist throughout the pregnancy, post-natal, and childcare period and help individuals to stay connected to healthcare professionals.

The segment includes technologies aimed at reducing maternal and child mortality, preterm births, prenatal genetic screening, and carrier testing. Additionally, there are products and services available that address physical and mental wellness during pregnancy, postpartum, and parenting. This includes education on pregnancy, lactation, and breastfeeding, among other topics.

The Pregnancy & Nursing subsector encompasses a range of product types, including apps and software for pregnancy monitoring, mental health, feeding time, and child well-being tracking. Diagnostic tools, devices, digital platforms, telehealth, consumer products, services, drugs, vitamins, and supplements are also included in this segment.

Overall, the Pregnancy & Nursing segment of FemTech plays a critical role in providing individuals with the necessary tools and resources to ensure the best possible outcomes for maternal, fetal, neonatal, and child health.

## Pelvic & Uterine Healthcare

The Pelvic & Uterine Healthcare segment of FemTech provides technologies to improve the health of pelvic organs at any life stage, as it plays a vital role in complete physical, mental, social, and sexual well-being.

This segment focuses on preventive care, treatment, diagnostics, testing, and screening of pelvic organs, including the uterus, cervix, and ovaries. The conditions addressed by this segment include prolapse or sagging of the organs, weakening of pelvic muscles and connective tissues, incontinence, problems with bladder and bowel function, cancers, and other issues affecting the proper function of a woman's pelvic organs.

Subsector product types in Pelvic & Uterine Healthcare include devices such as wearables and hardware, diagnostics, digital platforms, apps and software, telemedicine, drugs, and supplements, as well as consumer products.

Overall, the Pelvic & Uterine Healthcare segment of FemTech provides essential solutions to improve the health and well-being of individuals with pelvic and uterine conditions, and plays a critical role in advancing women's health.

## Women's Longevity

The Women's Longevity segment of FemTech focuses on technologies that advance women's healthspan and increase longevity throughout different stages of life. This segment includes preventive medicine and solutions for the detection, monitoring, and treatment of genetic and chronic diseases, as well as biometrics and lifestyle solutions.

Subsector product types in Women's Longevity include diagnostics, drugs, vitamins and supplements, services, wearables such as health trackers, apps and software, and digital platforms.

Overall, the Women's Longevity segment of FemTech aims to improve the quality of life and longevity of women by providing innovative solutions for preventive care, disease management, and overall health and wellness.

## Mental Health

The Mental Health segment of FemTech focuses on technologies that improve emotional, psychological, and social well-being of women. This segment includes solutions that help women handle stress, relate to others, make choices, and feel empowered.

It is important to note that the Mental Health segment does not include solutions for mental wellness during pregnancy and postpartum.

Subsector product types in the Mental Health segment of FemTech include apps, digital platforms, teleconsultation, wearables, and vitamins and supplements.

Overall, the Mental Health segment of FemTech aims to address the unique mental health needs and challenges faced by women, and to provide them with innovative solutions to improve their overall well-being.

## Menopause Care

Startups in the menopause care category aim to improve the quality of life for women experiencing menopause by addressing its symptoms in innovative ways. They also seek to predict when menopause is likely to occur, how it could be affected by experiences in other life phases, and provide better community support for those going through menopause.

Products in this subsector include digital platforms, apps, supplements, telehealth, consumer products, and wearables.

## Sexual Health

Companies focus on the physical, emotional, mental and social well-being related to sexuality and sex and intimate hygiene.

Sexual health is another area continuing to emerge with new mobile app solutions to help women obtain contraception, innovative hardware to achieve orgasms, prevent, test and treat STDs, and access sex education tools and resources.

Subsector product types: consumer products, devices (wearables, hardware, etc.), digital platforms, apps, telehealth.

## General Healthcare

The General Healthcare category includes a holistic approach to health promotion, as well as preventive care services such as immunizations and general health screening. It also covers hormonal health, treatment of acute and chronic illnesses, autoimmune diseases, breast cancer, and appropriate referral for more specialized needs where required. This category encompasses any health conditions that are not included in other specific subsectors.

## Women's Wellness

Women's Wellness is a category that emphasizes a holistic approach to female well-being. Companies in this sector provide innovative femcare products and clothes, excluding period products. Nutrition and Fitness solutions are tailored specifically for women, promoting body positivity, fitness apps that adjust workouts to health conditions/cycles, and nutritional programs/apps that address women's health concerns.

## FemTech Investors

FemTech investors are individuals, groups, or organizations that provide financial support and resources to FemTech start-ups and companies. These investors play a crucial role in supporting the growth and development of the FemTech industry by providing funding for research and development, product development, marketing, and other business activities.

FemTech investors may be individuals, such as angel investors or high-net-worth individuals, or institutional investors, such as venture capital firms, private equity firms, and family offices. These investors typically provide funding in exchange for equity or ownership in the company, with the expectation of a return on their investment.

Investors in the FemTech industry are often motivated by both financial and social impact goals. They seek to support innovative products and services that have the potential to improve women's health outcomes, increase access to healthcare services, and promote gender equity in healthcare.



## Venture Capital Funds

FemTech venture capital funds are investment firms that focus on providing financial support to start-ups and companies that develop technology products and services for women's health and wellness. These funds typically provide seed or early-stage funding to companies that have a unique and innovative solution to a problem faced by women in the healthcare industry.

There are different types of FemTech venture capital funds, including:

- **General FemTech funds:** These are investment funds that provide financial support to start-ups and companies that are focused on a wide range of women's health and wellness issues, such as reproductive health, menopause, fertility, and breast cancer.
- **Specialized FemTech funds:** These funds provide financial support to start-ups and companies that are focused on a specific area of women's health and wellness, such as menstrual health, pregnancy, or maternal healthcare.
- **Hybrid funds:** These are investment funds that focus on both FemTech and other technology sectors. They may invest in FemTech companies as well as other technology companies that are focused on solving broader healthcare problems.
- **Corporate-backed funds:** These are investment funds that are backed by corporations that are focused on women's health and wellness. They may invest in FemTech companies that align with their corporate objectives and goals.

## Accelerators and Incubators

FemTech accelerators and incubators are programs or organizations that provide resources, support, and mentorship to start-ups and entrepreneurs developing technology products and services for women's health and wellness. These programs typically focus on providing seed funding, office space, and business development resources to help these companies grow and scale.

Accelerators are typically short-term programs that focus on helping start-ups accelerate their growth and achieve key business milestones, such as securing funding, developing a prototype, or launching a product. Incubators, on the other hand, are typically longer-term programs that provide ongoing support and resources to start-ups throughout the early stages of their development.

There are several types of FemTech accelerators and incubators, including:

- General FemTech programs: These programs provide support and resources to start-ups and entrepreneurs focused on a wide range of women's health and wellness issues.
- Specialized FemTech programs: These programs focus on supporting start-ups and entrepreneurs that are developing solutions for a specific area of women's health and wellness, such as reproductive health, menstrual health, or menopause.
- Corporate-backed programs: These programs are backed by corporations that are focused on women's health and wellness. They may provide funding, resources, and mentorship to start-ups that align with their corporate objectives and goals.

## Angel Groups

Angel groups in the FemTech industry are networks of high-net-worth individuals who invest their personal funds in start-ups and companies developing technology products and services for women's health and wellness. These groups typically provide early-stage funding to start-ups, as well as mentorship and expertise to help these companies grow and succeed.

There are different types of angel groups, including:

- General FemTech angel groups: These groups invest in start-ups and companies developing a wide range of technology products and services for women's health and wellness.
- Specialized FemTech angel groups: These groups focus on investing in start-ups and companies developing solutions for a specific area of women's health and wellness, such as reproductive health, maternal health, or menopause.
- Geographically focused angel groups: These groups invest in start-ups and companies based in a specific geographic region or country.
- Sector-specific angel groups: These groups invest in start-ups and companies developing technology solutions in a specific sector or industry, such as healthcare or biotechnology.
- Impact-focused angel groups: These groups invest in start-ups and companies that have a strong social or environmental impact, such as those that aim to improve women's health outcomes in underserved communities.

## Family Investment Offices

Family Investment Offices (FIOs) are private wealth management firms that manage the investment portfolios of high net worth families and individuals. These offices typically have a long-term investment approach and focus on preserving and growing their clients' wealth across generations.

FIOs are increasingly investing in the FemTech industry, recognizing the potential for growth and innovation in this sector. They may invest directly in FemTech start-ups and companies, or through venture capital funds or angel groups that specialize in this area.

FIOs offer several advantages to FemTech start-ups and companies seeking funding, including access to significant capital, a long-term investment horizon, and the potential for ongoing support and resources from the family office. They may also bring expertise and connections from other industries and sectors, which can be valuable in helping FemTech companies to grow and scale.

## Private Equity Firms

Private equity firms in the FemTech industry are investment management companies that provide funding to private companies developing technology products and services for women's health and wellness. These firms typically invest in established companies with growth potential, rather than start-ups.

There are different types of private equity firms in the FemTech industry, including:

- Generalist private equity firms: These firms invest in a wide range of companies across different industries, including FemTech companies.
- Specialist private equity firms: These firms specialize in investing in companies within a specific industry or sector, such as healthcare or technology. FemTech companies would fall within the scope of specialist private equity firms focused on the healthcare or technology sectors.
- Family offices: As mentioned earlier, family offices are private wealth management firms that manage the investment portfolios of high net worth families and individuals. Some family offices may invest directly in FemTech companies or through private equity funds that focus on this area.
- Impact-focused private equity firms: These firms invest in companies that have a strong social or environmental impact, such as those focused on improving women's health outcomes or addressing gender disparities in healthcare.

## Government Offices & University Programs

Government offices and university programs are two important entities in the FemTech industry, providing support and resources for the development and growth of technology products and services for women's health and wellness.

Government offices may provide funding and regulatory support for FemTech start-ups and companies. For example, government agencies such as the National Institutes of Health (NIH) and the National Science Foundation (NSF) may offer grants or funding opportunities for FemTech companies that are conducting research in women's health and wellness.

University programs, on the other hand, may provide support for the development and commercialization of FemTech products and services. Universities may offer incubator or accelerator programs specifically for FemTech start-ups, providing mentorship, resources, and funding opportunities to help these companies grow and succeed.

Additionally, universities may conduct research in women's health and wellness, contributing to the development of new technologies and products. These research programs may also help to educate the next generation of FemTech entrepreneurs and innovators.

## Investment Banks

Investment banks in the FemTech industry provide financial and advisory services to technology companies developing products and services for women's health and wellness. These firms can help FemTech companies to raise capital, facilitate mergers and acquisitions, and provide strategic advice to support growth and development.

There are different types of investment banks in the FemTech industry:

- **Bulge Bracket Investment Banks:** These are large, global investment banks with extensive resources and expertise in multiple areas of finance. Bulge bracket investment banks often work with large FemTech companies on complex deals, such as mergers and acquisitions or public offerings.
- **Boutique Investment Banks:** These are smaller, specialized investment banks that focus on a specific sector or industry. Boutique investment banks in the FemTech industry may have more specialized knowledge of the sector and offer tailored advisory services to FemTech companies.



- **Regional Investment Banks:** These are investment banks that operate in specific geographic regions, such as a particular country or state. Regional investment banks may have deep knowledge of the local market and regulations, making them a valuable resource for FemTech companies operating in those areas.
- **Independent Advisory Firms:** These are advisory firms that focus solely on providing strategic advice to FemTech companies. Independent advisory firms may work with investment banks to provide specialized services to their clients.

## FemTech Hubs & Communities

FemTech hubs and communities are networks and organizations that bring together individuals and companies interested in advancing women's health and wellness through technology and innovation. These hubs and communities provide a platform for collaboration, education, and networking, and are instrumental in promoting the growth and development of the FemTech industry.

FemTech hubs and communities may take many different forms, including physical coworking spaces, online communities, and professional organizations. They may focus on specific areas of women's health, such as reproductive health or menopause, or on broader issues related to gender equity in healthcare.

## Partnership and Networking

Partnership and networking are essential for success in the FemTech industry, as it is a rapidly evolving and highly competitive field. Partnerships and networking opportunities can help FemTech companies to access resources, funding, and new customers, as well as to stay up-to-date on the latest industry trends and innovations.

Partnerships in the FemTech industry can take many forms, including collaborations between start-ups, established companies, academic institutions, and government agencies. For example, a FemTech start-up may partner with a larger healthcare company to develop and commercialize a new product or service. Or, a FemTech company may collaborate with an academic institution to conduct research or to develop new technologies.

Networking opportunities in the FemTech industry can include attending industry events, such as conferences or trade shows, joining professional organizations or

online communities, and participating in start-up accelerators or incubators. These networking opportunities can help FemTech entrepreneurs to connect with potential investors, customers, and partners, as well as to learn from the experiences of other industry professionals.

## Startups Support Programs and Platforms

Startups support programs and platforms are resources available to entrepreneurs and start-ups in the FemTech industry to help them grow and succeed. These programs and platforms provide access to resources, mentorship, networking opportunities, and funding to help start-ups overcome common challenges and obstacles.

Examples of FemTech start-ups support programs and platforms include:

- **Pitch Competitions:** Pitch competitions provide start-ups with the opportunity to pitch their business ideas to investors and industry experts, with the chance to win funding, mentorship, and other resources to support their growth.
- **Funding Platforms:** Funding platforms, such as crowdfunding or peer-to-peer lending platforms, provide start-ups with access to funding from a wider pool of investors, often with lower barriers to entry than traditional funding sources.
- **Mentoring Programs:** Mentoring programs provide start-ups with access to experienced industry professionals who can offer guidance, support, and advice on various aspects of starting and growing a business.
- **Industry-Specific Programs:** Industry-specific programs, such as those focused on healthcare or women's health and wellness, provide start-ups with access to industry experts and resources tailored to their specific sector or niche.

## Events, Media and Marketing

Events, media, and marketing are important components of the FemTech industry that help raise awareness about new products and services, promote innovation, and facilitate networking and collaboration within the industry.

- Events are an important aspect of the FemTech industry, as they provide a platform for companies to showcase their products and services, connect

with potential customers and partners, and stay up-to-date on industry trends and innovations. Examples of FemTech events include conferences, trade shows, and networking events.

- Media plays a crucial role in raising awareness about FemTech companies and their products or services. FemTech companies may leverage traditional media channels such as print, radio, and TV, or digital media such as social media and online publications to reach their target audience.
- Marketing is essential for the success of any business, and FemTech companies are no exception. Marketing strategies in the FemTech industry may include digital marketing, influencer marketing, content marketing, and email marketing to reach and engage potential customers.
- Social media platforms, such as Instagram, Twitter, and Facebook, can be powerful tools for FemTech companies to reach their target audience, build brand awareness, and engage with customers. These platforms can be used to share company updates, promote products, and interact with customers.
- Webinars are a popular marketing tool in the FemTech industry, as they provide an opportunity for companies to showcase their expertise and products to a targeted audience. Webinars may cover a range of topics, such as new product launches, industry trends, and educational content.

## FemTech R&D Centers and Labs

FemTech R&D (Research and Development) centers and labs are facilities dedicated to the development of new technologies and products aimed at improving women's health and wellness. These centers and labs are focused on conducting research, designing and testing prototypes, and bringing new products to market.

## Clinical and Scientific Medical Centers

Clinical and scientific medical centers are organizations that provide healthcare services, conduct medical research, and offer education and training for medical professionals. These centers specialize in various areas of medicine, including women's health and FemTech.

Clinical medical centers provide direct patient care and treatment services, such as diagnostic testing, medical procedures, and disease management. These centers may be affiliated with hospitals or other healthcare facilities and may offer

specialized services for women's health, such as gynecological exams, prenatal care, and menopause management.

Scientific medical centers focus on medical research and development, conducting studies and clinical trials to advance medical knowledge and develop new treatments and technologies. These centers may also provide education and training opportunities for medical professionals, such as residency programs and continuing education courses.

## Research, Policy and Education Institutions

Research, policy, and education institutions are organizations that specialize in conducting research, setting policies, and providing educational opportunities related to the FemTech industry and women's health in general.

Research institutions may be academic or independent organizations that conduct research to advance knowledge and understanding of women's health issues, as well as develop new technologies and treatments. These institutions may also collaborate with FemTech start-ups to provide clinical validation for their products and services.

Policy institutions may be government agencies, think tanks, or advocacy groups that focus on developing policies and regulations related to women's health and FemTech. These institutions work to promote gender equity in healthcare, improve access to healthcare services for women, and ensure that FemTech products and services meet regulatory requirements and standards.

Education institutions may be universities or training organizations that provide education and training opportunities for healthcare professionals and others interested in the FemTech industry. These institutions may offer courses, workshops, and training programs related to women's health, FemTech innovations, and related topics.

## R&D of Innovative Products and Services

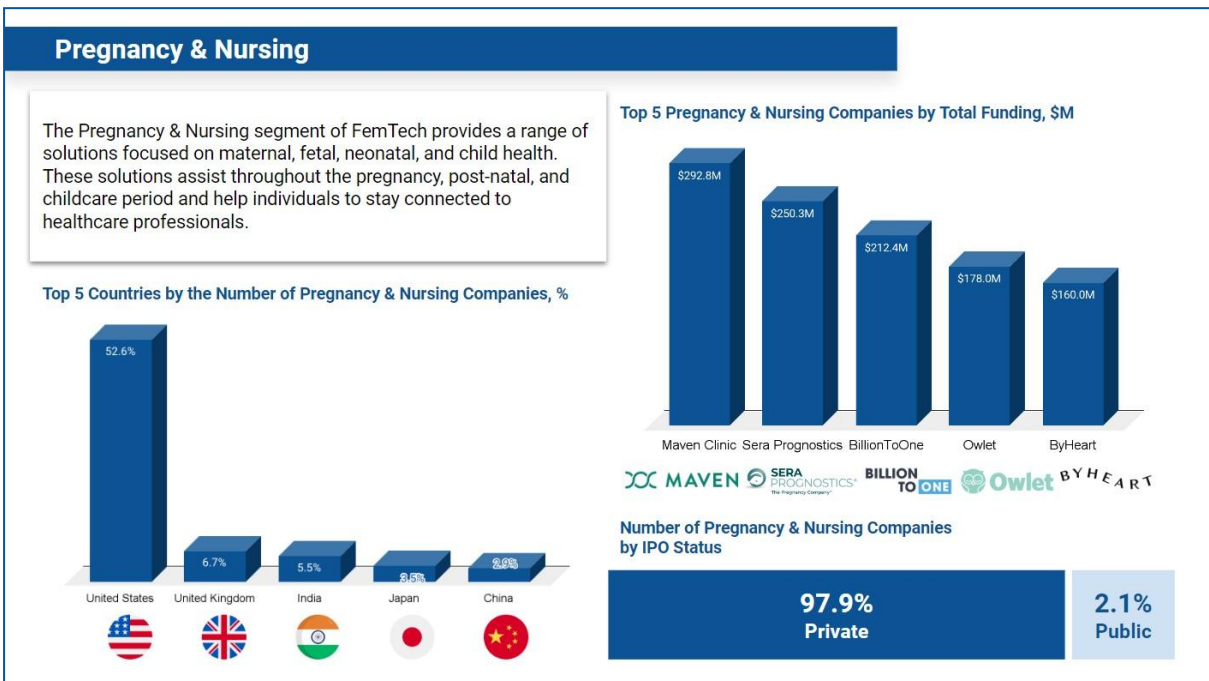
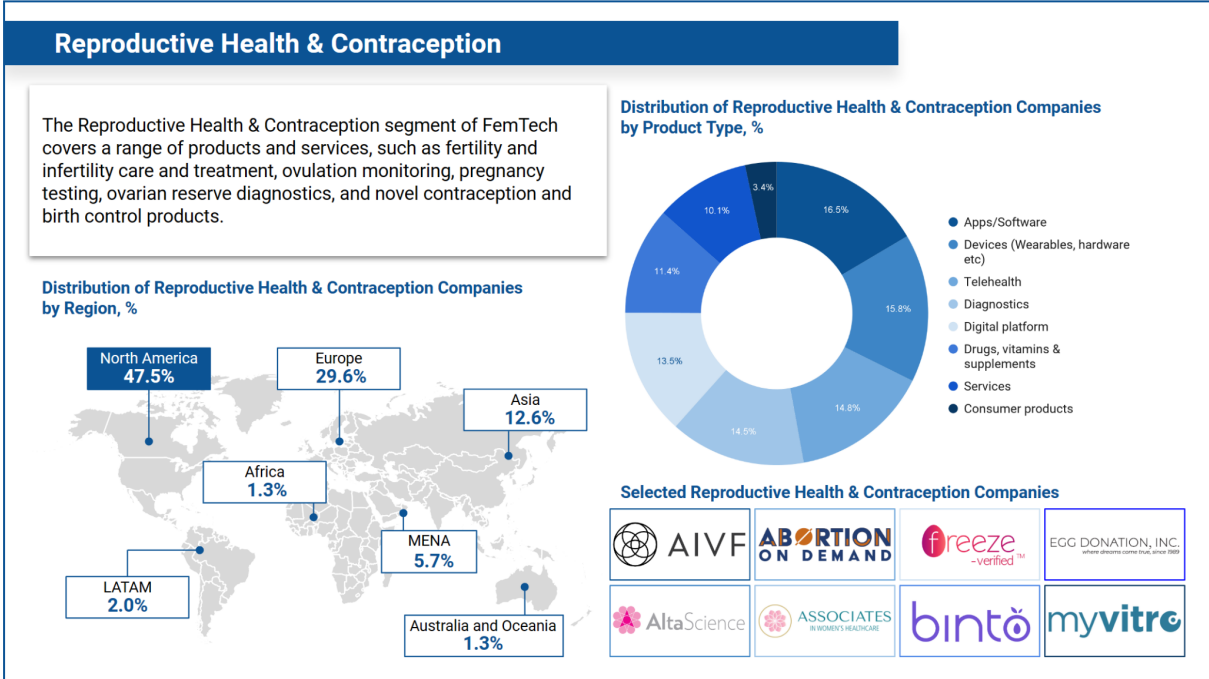
Research and development (R&D) of innovative products and services is a crucial aspect of the FemTech industry. This process involves identifying unmet needs in women's health, developing new technologies and products to address these needs, and conducting rigorous testing and clinical validation to ensure their safety and effectiveness.

FemTech start-ups and established companies invest heavily in R&D to bring innovative products and services to market. This process may involve collaboration with research institutions, clinical medical centers, and other stakeholders in the healthcare ecosystem.

The R&D process typically involves several stages, including ideation, prototyping, testing, and refinement. This process may take several years and require significant resources and investment, but it is essential for developing products and services that meet the needs of women and improve their health outcomes.

In the FemTech industry, R&D is focused on a wide range of areas, including reproductive health, menstrual health, menopause, fertility, sexual health, and other women's health issues. Innovative products and services in these areas can help to improve access to healthcare services, reduce stigma, and promote gender equity in healthcare.

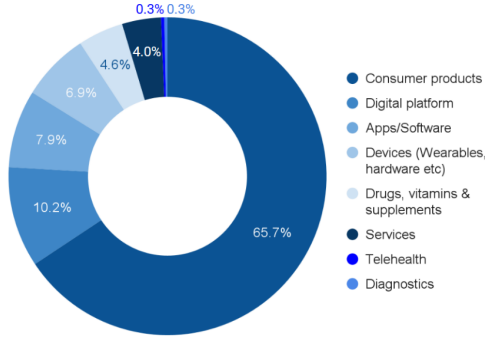
# FemTech Industry Analytical Framework: Segment Profiles



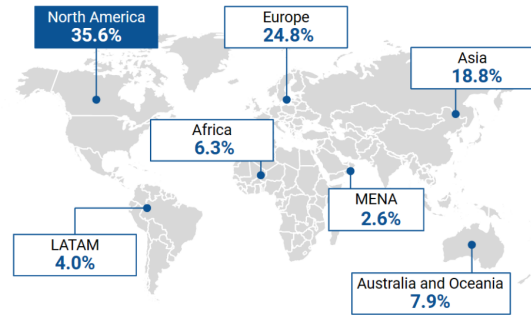
## Menstrual Health

The Menstrual Health segment of FemTech encompasses products, services, and initiatives that address the needs of menstruators throughout the four phases of the menstrual cycle. The goal is to achieve complete physical, mental, and social well-being.

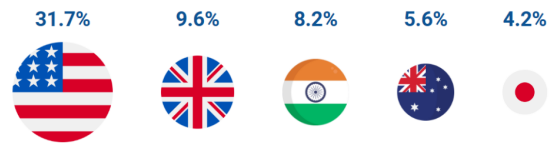
Distribution of Menstrual Health Companies by Product Type, %



Distribution of Menstrual Health Companies by Region, %



Top 5 Countries by the Number of Menstrual Health Companies



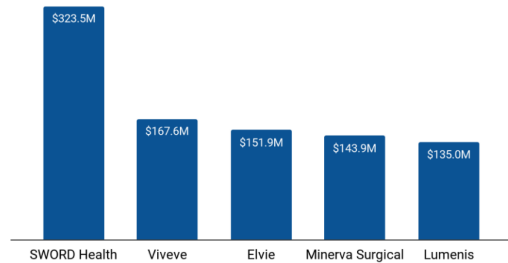
## Pelvic & Uterine Healthcare

The Pelvic & Uterine Healthcare segment of FemTech provides technologies to improve the health of pelvic organs at any life stage, as it plays a vital role in complete physical, mental, social, and sexual well-being.

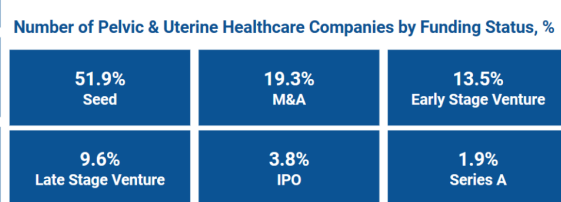
Pelvic & Uterine Healthcare Companies by Product Type



Top 5 Pelvic & Uterine Healthcare Companies by Total Funding, \$M



Number of Pelvic & Uterine Healthcare Companies by Funding Status, %

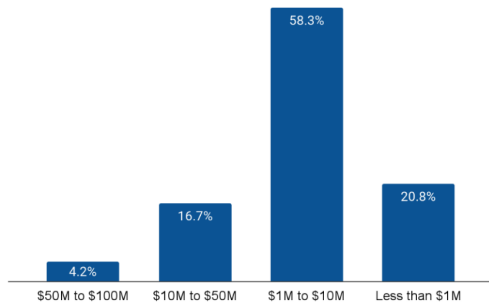




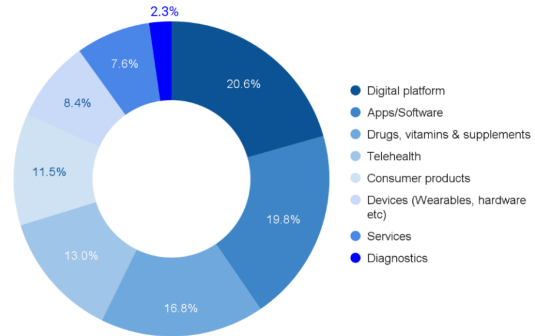
## Menopause Care

Startups in the menopause care category aim to improve the quality of life for women experiencing menopause by addressing its symptoms in innovative ways. They also seek to predict when menopause is likely to occur, how it could be affected by experiences in other life phases, and provide better community support for those going through menopause.

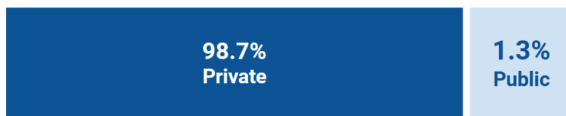
Distribution of Menopause Care Companies by Revenue



Distribution of Menopause Care Companies by Product Type, %



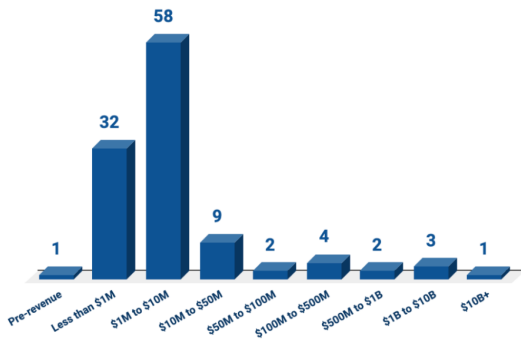
Number of Menopause Care Companies by IPO Status, %



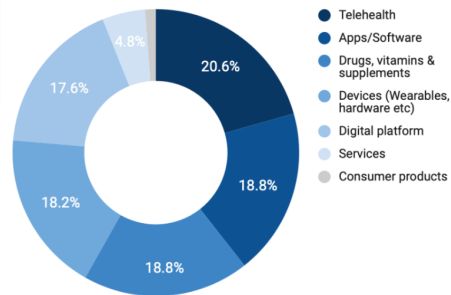
## General Healthcare

The General Healthcare sector in FemTech includes a wide range of products and services that are designed to improve women's health and wellbeing. These technologies are focused on helping women to monitor and manage their health, and to access high-quality healthcare services.

Distribution of General Healthcare Companies by Revenue Range



Distribution of General Healthcare Companies by Product Type



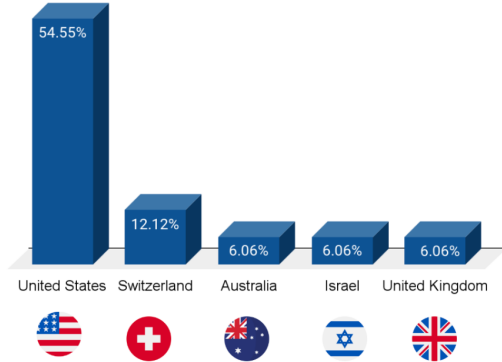
Selected General Healthcare Companies



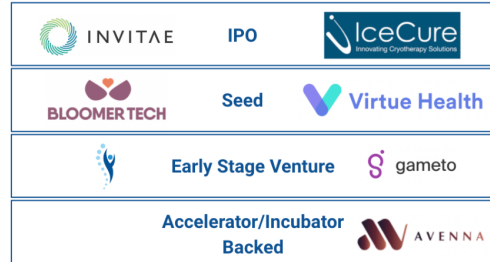
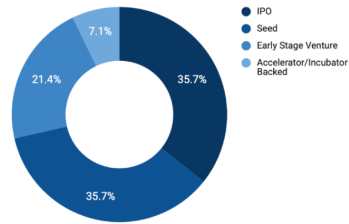
## Women's Longevity

The Women's Longevity sector in FemTech is focused on developing technologies and products that promote women's health and wellness, with the goal of extending their lifespan and improving their quality of life as they age.

Distribution of Women's Longevity Companies by Country



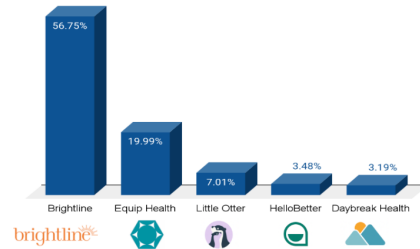
Distribution of Women's Longevity Companies by Funding Status



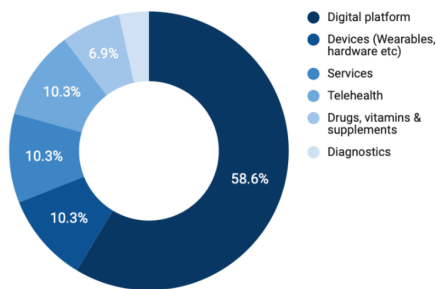
## Mental Health

The Mental Health sector within FemTech is an area that has seen significant growth in recent years, with a number of companies developing products and services to support women's mental health.

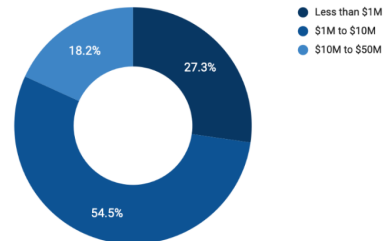
Distribution of Mental Health Companies by Total Funding Amount



Distribution of Mental Health Companies by Product Type



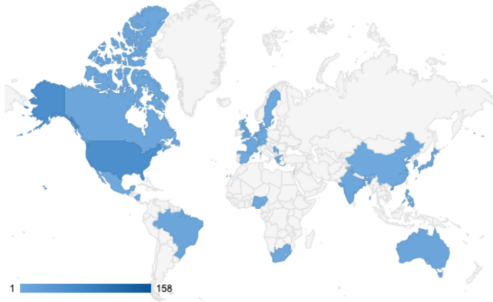
Distribution of Mental Health Companies by Revenue Range



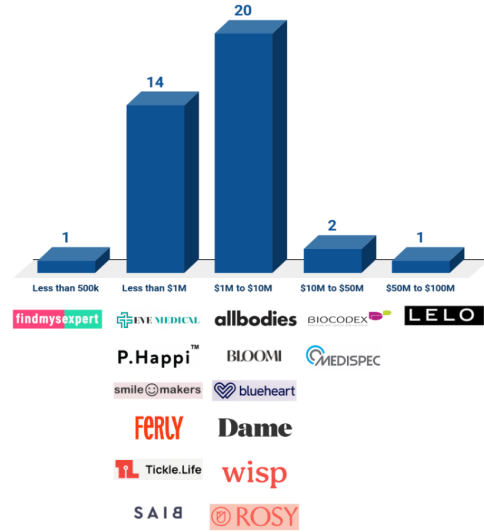
## Sexual Health

The Sexual Health sector within FemTech has grown significantly in recent years, with a focus on developing products and services to support women's sexual health and wellness. It is focused on providing women with accessible, affordable, and personalized solutions for their sexual health needs.

Distribution of Sexual Health Companies by Country



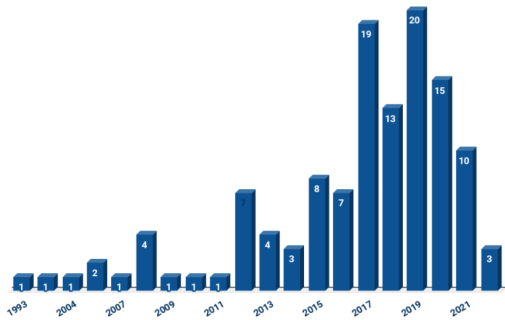
Distribution of Sexual Health Companies by Revenue Range



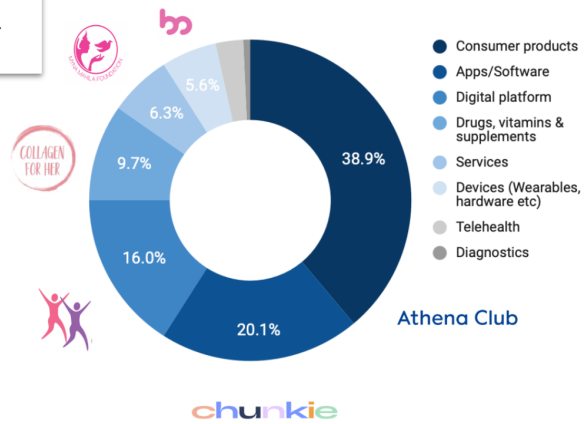
## Women's Wellness

Women's Wellness is the holistic approach to the health and well-being of women. It encompasses physical, mental, emotional, and spiritual health, and it is focused on preventive measures to maintain optimal health and wellness throughout a woman's life.

Distribution of Women's Wellness Companies by Founded Year



Distribution of Women's Wellness Companies by Product Types



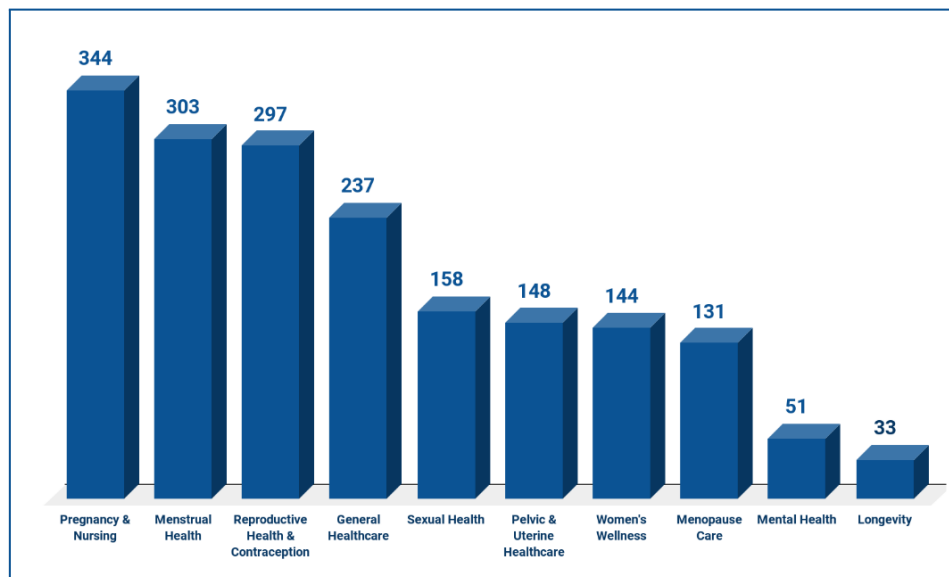
# FemTech Industry Landscape Overview

Over the last few years, the FemTech industry has grown exponentially, paving the way for innovative start-ups and established tech companies to create products catering to women's health and wellness. From period-tracking underwear to fertility tracking apps, the FemTech market offers a plethora of solutions for addressing women's healthcare needs. Notably, the market has seen a surge in investment, with the total amount of funding reaching a staggering \$19.7 billion in December 2022, representing a YoY increase of 35%. This figure is expected to continue growing, thanks to the increasing awareness of women's health.

The FemTech industry is an exciting and lucrative opportunity for entrepreneurs and investors alike, thanks to its vast potential for growth. The market is evolving rapidly, and it's an exciting time to be involved in this dynamic industry.

In terms of subsectors, Pregnancy and Nursing is the largest segment, accounting for 18.6% of the total market. Menstrual Health is a close second, comprising 16.5%, followed by Reproductive Health and Contraception, which holds 16.1% of the market. Together, these top three subsectors make up 51.2% of the entire FemTech market.

**Number of FemTech Companies by Subsector, Q4 2022**

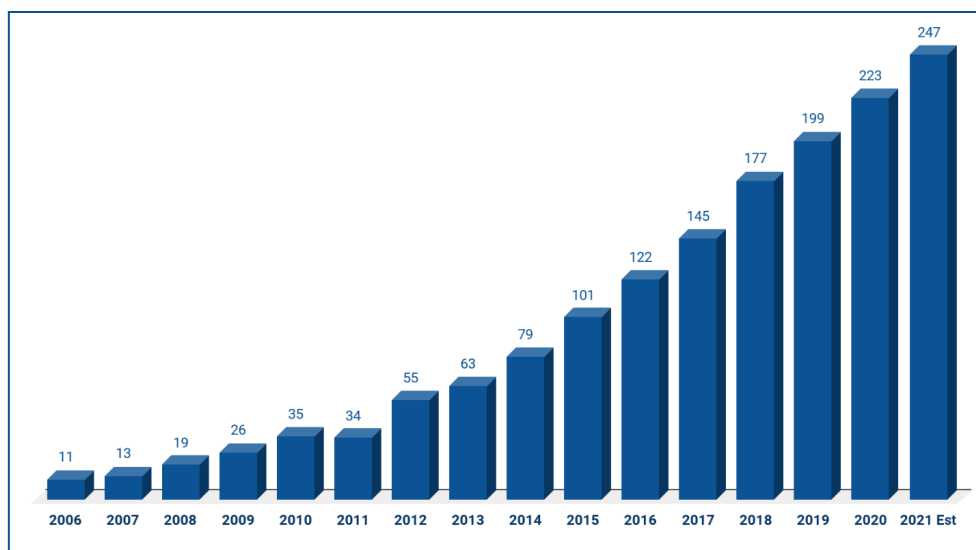


In recent years, there has been a significant shift in societal attitudes towards women's health and wellness. Thanks in part to the rise of social media and other digital platforms, more women than ever before are speaking out about their experiences and bringing formerly taboo topics into the public conversation. As a result, body issues, reproductive health, and other once-sensitive topics have become more accepted and normalized.

This cultural shift has had a direct impact on the growth of the FemTech market, which has experienced a surge in both the number of companies and the level of investment. With the feminist movement gaining momentum and the increasing digitalization of healthcare, FemTech has emerged as a powerful force in the industry.

In fact, the rate of growth for FemTech companies has been faster in recent years than at any other time since the 2010s. Since 2015, more than 100 new FemTech companies have been founded annually, reflecting the growing demand for innovative solutions that address women's unique healthcare needs.

### Number of Companies by Year of Founding



Moreover, the emergence of personalized healthcare has further fueled the growth of FemTech. With more and more women seeking customized solutions to their health concerns, FemTech companies have stepped up to offer a range of specialized products and services. From fertility tracking apps to hormone-balancing supplements, FemTech is at the forefront of the personalized healthcare revolution.

Overall, the combination of changing attitudes towards women's health, the feminist movement, and rapid digitalization, has created the perfect storm for the rapid development of FemTech.

## FemTech Geography

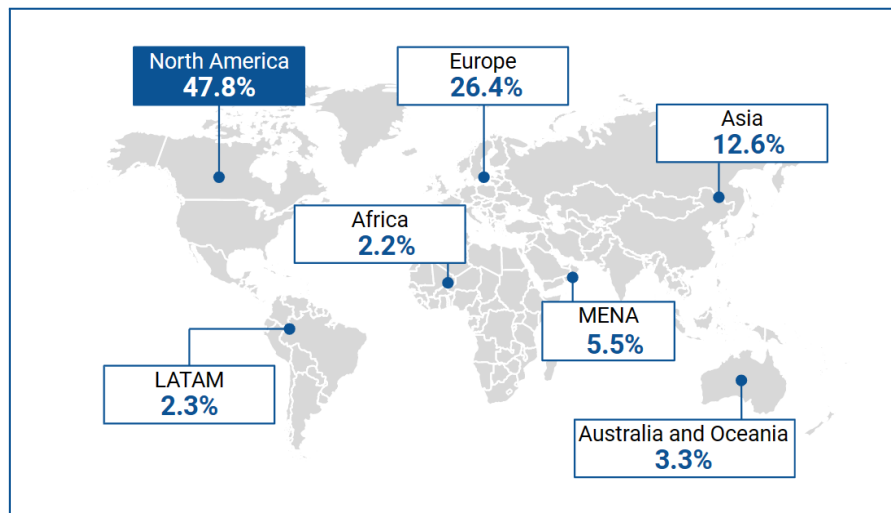
In recent years, the FemTech industry has seen significant growth in terms of the number of companies and geographic distribution. According to FemTech Analytics, there are now more than 1,800 FemTech companies in 75 countries, compared to about 470 companies in 40 countries before 2015. This indicates that the industry is rapidly expanding and gaining traction across the globe.

## FemTech Geography: 2015 vs. Q4 2022



While North America is currently home to the majority of FemTech companies, accounting for 43.4% of the total, Europe is the second-largest region, with a 26.4% share, with most companies based in the UK. The FemTech subsector is still underrepresented in Asian countries, MENA, and Australia. However, this is expected to change as the industry continues to grow and expand globally.

### Distribution of FemTech Companies by Region, Q4 2022



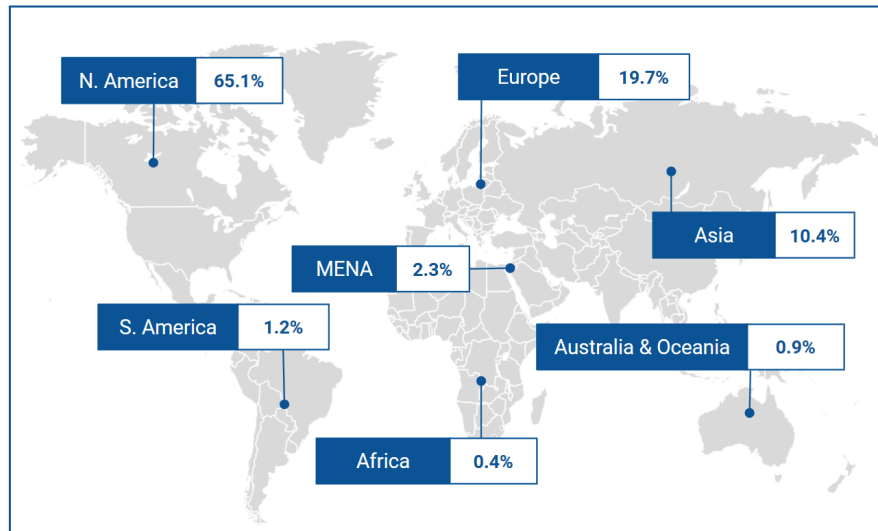
## FemTech Investors

Like many sectors of the global economy, the FemTech industry is strongly backed by North American investors as well, who make up around 65.1% of the total investor representation. Within North America, the United States has the largest share of investors, with 60.9% of all investors originating from the country.

While North America dominates in terms of investor representation, there are other regions that also hold significant shares of the FemTech investment market. Europe

and Asia, for example, are home to a substantial number of investors, with 19.7% and 10.4% shares respectively. Within Europe, the majority of investors come from the United Kingdom, while in Asia, India and Japan are the most significant sources of investment.

### Regional Proportion of FemTech Investors



It is worth noting that the FemTech industry is still relatively new, and there is significant room for growth in terms of investment from other regions. For example, the Middle East and North Africa (MENA) region is currently an untapped market for FemTech investment, with only a small percentage of investors originating from these areas. Similarly, South America, Australia & Oceania, and Africa are also underrepresented in terms of FemTech investment.

As the FemTech industry continues to grow and mature, it is likely that we will see increased investment from a wider range of regions, as more investors recognize the potential of this emerging sector. Additionally, as FemTech solutions become more widely adopted and prove their value, there will likely be an increase in demand for investment from a wider range of sources, further diversifying the investor base.

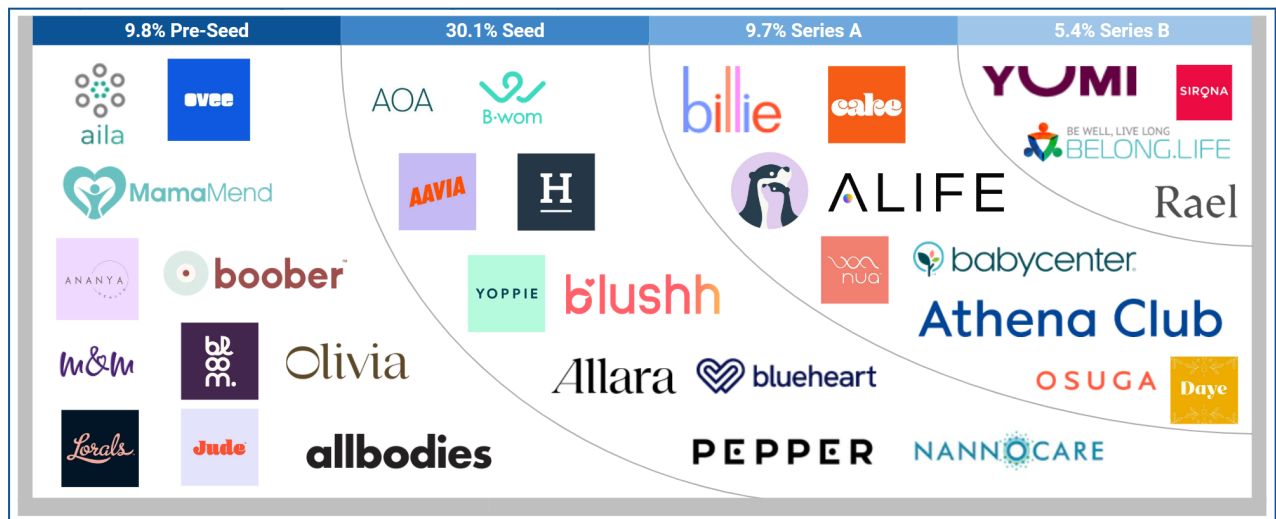
While North America currently dominates the FemTech investment market, other regions, such as Europe and Asia, also hold significant shares. However, there is still significant potential for growth and diversification in terms of investment sources, with regions such as the MENA, South America, Australia & Oceania, and Africa likely to become increasingly important in the coming years.



## FemTech Industry Funding

As of the last funding type, approximately 30.1% of FemTech companies were at the seed-stage level, indicating that they are still in the early stages of development and are actively seeking funding to grow their operations.

### Last Funding Type in FemTech Industry



Seed-stage businesses are typically characterized by a high level of risk and uncertainty, as they are still in the process of developing their products or services and establishing their market position. However, they also represent significant potential for growth and innovation, as they are often exploring new and uncharted areas of the FemTech industry.

### List of investors focused on FemTech:

- **Avestria Ventures Management LLC** is a venture capital firm based in California that invests in early-stage women's health and life science companies.
- **Springbank Collective** is an early-stage investment firm that invests in solutions for all women and working families in the career, care and consumer sectors.
- **Coyote Ventures** is a venture capital fund investing in early-stage start-ups that develop innovative products in the field of women's health and wellness.
- **Portfolia** designs investment funds for women supporting the innovations they want to see in the world for profits and impact.
- **Kidron Capital Assets LP** is a FemTech venture capital firm that invests in medical technologies addressing women's healthcare and well-being.

- **FemHealth Ventures** invests in groundbreaking innovators in women's health, focusing on drugs, devices, diagnostics, and digital applications.
- **Astarte Ventures** is the venture fund dedicated exclusively to the health and well-being of women and children, with a primary focus on early intervention and prevention measures.
- **Rhia Ventures** is a venture capital firm with a mission to create a vibrant US market for sexual, reproductive, and maternal health that develops equitable outcomes for everyone.

One of the key challenges facing seed-stage FemTech companies is securing the necessary funding to support their growth and development. This can be particularly challenging, as investors may be hesitant to invest in companies that are still in the early stages of development and have yet to establish a track record of success.

Despite these challenges, there are a variety of funding sources available to seed-stage FemTech companies, including venture capital firms, angel investors, and crowdfunding platforms. Additionally, many seed-stage companies are able to secure funding through government grants, accelerator programs, and other sources of funding specifically targeted at start-ups and early-stage businesses.

## Investment Deals in FemTech in Q4 2022

1. **Maven Clinic**, a virtual women's and family health clinic, has raised **\$90M in Series E funding** to further expand its virtual women's and family health clinic. This brings Maven's total funding to **\$300M**, demonstrating the growing demand for health services for women and families around the world.
2. **Delphinus Medical Technologies, Inc.** is a leader in innovation in advanced ultrasound, introducing a new technique for dynamic breast imaging using sound and water. Delphinus raised **\$30M** in Series D to bring its 3D breast ultrasound system to market.
3. **Gameto**, a biotech company that uses cell engineering to develop therapeutics for diseases of the female reproductive system, has added **\$17M** in funding. The new funding brings total capital raised since inception to **\$40M**.
4. **Apricity**, the UK's leading virtual infertility clinic, has raised **\$16.5M in Series B** funding to support the company's European expansion. The company advocates a new approach to reproductive medicine that combines fertility care with technology to increase the chances of conception while offering a better patient experience.
5. **EngagedMD** adds **\$11M** to expand its SaaS platform beyond fertility practices. Fertility practitioners around the world are using the EngagedMD

platform to reduce repetitive manual tasks and simplify the patient journey. The company offers eLearn and eSign solutions to the fast-growing fertility sector, supporting the journey of more than half of all fertility patients in the US, UK and Canada.

As the FemTech industry continues to grow and mature, it is likely that we will see an increasing number of seed-stage companies entering the market. While these companies face significant challenges, they also represent a significant opportunity for investors to support innovative and impactful solutions that can improve women's health and wellness.

In conclusion, seed-stage FemTech companies represent a significant percentage of the industry, indicating that there is still significant room for growth and innovation in this sector. While these companies face significant challenges in terms of securing funding and establishing themselves in the market, they also represent significant potential for impact and growth. As the industry continues to evolve, it is likely that we will see an increasing number of seed-stage companies enter the market, driving further innovation and growth in the FemTech industry.

The FemTech sector is expected to continue its growth trajectory in the coming years, as more areas of women's healthcare and technology are explored. The industry is expected to double in size, driven by factors such as increasing awareness of women's health issues, the growing demand for personalized healthcare, and advancements in technology that enable better healthcare delivery.

Some of the areas that the FemTech industry is likely to focus on in the future include fertility and pregnancy tracking, menopause management, breast cancer screening, and sexual health. These areas are particularly important as they address key aspects of women's health and wellness that have historically been underserved by traditional healthcare systems.

Moreover, the FemTech industry has the potential to disrupt traditional healthcare delivery models and empower women to take control of their health. Through the use of technology, FemTech solutions can provide women with greater access to healthcare services, reduce barriers to care, and enable a more personalized and proactive health management.

# Key Market Trends of the FemTech Industry

The FemTech industry has experienced significant growth in recent years. This growth is driven by various factors, including an increase in women's health awareness and the rising demand for personalized healthcare solutions. As the industry continues to evolve, several key market trends are emerging that are shaping its growth trajectory. In this analysis, we will explore some of the most important trends shaping the FemTech industry today.

## Rising Demand for Personalized Healthcare Solutions

One of the most significant trends driving the FemTech industry's growth is the rising demand for personalized healthcare solutions. As women become more health-conscious and seek to take control of their health, they are looking for tailored solutions that meet their unique needs. FemTech companies are responding to this demand by developing products and services that focus on individual needs and preferences.

For example, FemTech companies are using technology to create personalized health plans that incorporate a variety of factors, such as age, lifestyle, and medical history. By leveraging data analytics and AI, these companies can provide tailored recommendations on diet, exercise, and other lifestyle changes to improve women's health outcomes.

## Increased Focus on Mental Health and Wellness

Another key trend in the FemTech industry is the increased focus on mental health and wellness. Mental health is a significant issue that affects many women, yet it has historically been underrepresented in healthcare. FemTech companies are stepping up to address this issue by creating products and services that focus on mental health and wellness.

For example, some FemTech companies are developing apps that provide meditation and mindfulness exercises, while others are developing wearables that can track stress levels and provide real-time feedback to help women manage their mental health. As women continue to prioritize mental health and wellness, this trend is likely to grow in the FemTech industry.

## Growing Use of Wearables and IoT Devices

The use of wearables and IoT devices is another trend that is shaping the FemTech industry. These devices allow women to track various health metrics, such as heart

rate, sleep patterns, and physical activity, and provide valuable insights into their overall health and wellness.

FemTech companies are developing wearables and IoT devices that are specifically designed for women's health needs. For example, there are wearables that can track menstrual cycles, fertility, and pregnancy, providing valuable insights into women's reproductive health. As the technology behind wearables and IoT devices continues to improve, we can expect to see more innovative products in the FemTech industry.

The growing demand for direct-to-consumer devices in FemTech, such as wearables, is caused by the overall comfort and reduced side effects from their use.

Smart wearable devices allow females to measure variable biomarkers and body performance; track their monthly cycles, including ovulation and periods; and test their urine or breast milk. Some, such as the Elvie trainer, offer pelvic floor muscle exercise programs to women who experience bladder control problems or want to improve their pelvic health for better intimacy or faster postnatal recovery.

Others, such as Bloomlife, offer antenatal care, and operate by using digital technology to constantly run data analytics to keep track of health levels of the mother and the baby, it is also lightweight and this makes it easy to wear since it is non invasive.

Among the solutions for physical and mental well-being are various smartwatches and smart bracelets, such as Bellabeat, the wellness tracker that can monitor health, fitness, menstrual cycles, sleep patterns, meditation, and stress levels and provide analyzed data and personalized content, helping women understand themselves better, and postpartum period and baby care start-ups such as different wearable breast pumps.

## Tracking Apps

The tracking apps have included developing apps for tracking ovulation and periods, pregnancy or menopause symptoms, and apps for general physical or mental wellness and female disease management.

All of these solutions are helping women to understand better and take care of their bodies and their cycles. By tracking symptoms, they can identify irregularities and spot any potential concerns.



Source: [FemTech Industry Landscape Overview Q4 2021](#)

The menstrual health applications segment held the largest market share in 2020. Period apps can track ovulation and guide women who are trying to conceive or avoid pregnancy.

Some widely known examples include Clue, Glow, Eve, Flo, Natural Cycles, My Calendar, and many others.

Other top companies in this space, such as Cora, provide subscription services to deliver feminine hygiene products to customers' doorstep.

One of the latest collaborations in this sphere was between Clue and Fitbit's iconic sports watch. The joint project offers a first-period tracking app compatible with the Fitbit OS.

## Increased Focus on Menopause and Aging

As women age, their healthcare needs change, and the FemTech industry is responding to this by developing products and services that focus on menopause and aging. Menopause is a significant health issue that affects millions of women worldwide, yet it has historically been underrepresented in healthcare.

FemTech companies are developing products and services that help women manage the symptoms of menopause, such as hot flashes and night sweats. There are also products that help women maintain bone density and muscle mass as they age, helping to reduce the risk of falls and fractures.

There are various treatments currently available to relieve vasomotor symptoms of menopause (VMS) – from hot flashes, night sweats, weight gain to insomnia – including hormone replacement therapy and supplements.

Menopause often accompanies other diseases; low levels of estrogen and other changes related to aging can raise women's risk of heart disease, stroke, and osteoporosis.

Many women are looking for alternative digital solutions. As for now, the most common treatment is still hormonal replacement therapy (HRT), which may cause side effects. Latest technologies implemented are:

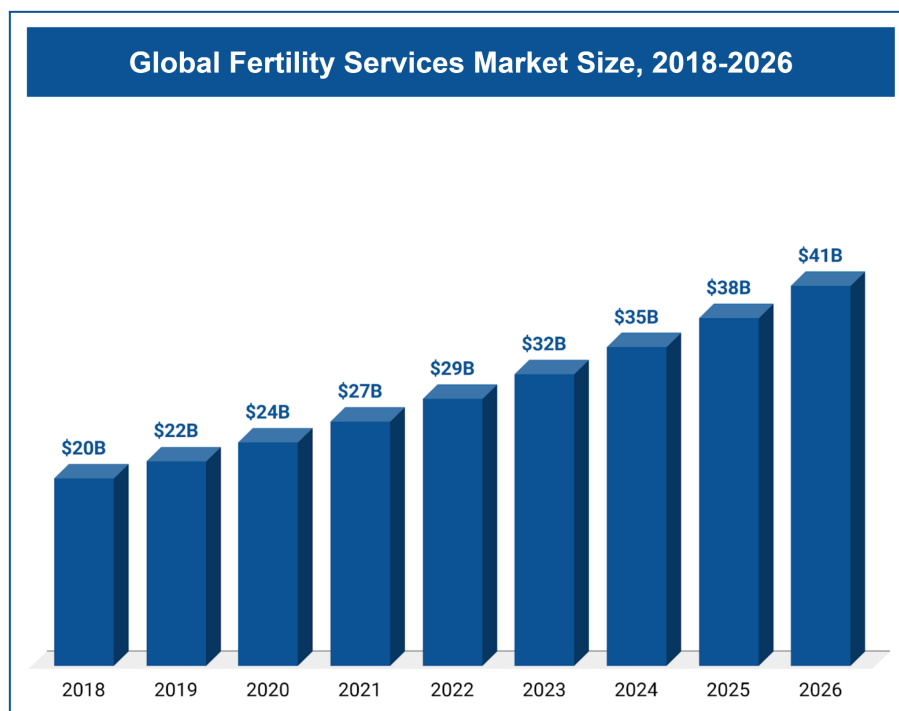
- Wearables to manage the symptoms
- Symptom tracking apps
- Telemedicine and digital therapeutics
- Pharmtech for alternative therapy

The VMS market size is forecast to reach \$893 million by 2025, growing at a CAGR of 6.51% during the period 2020-2025.

Hormonal imbalance which leads to premature menopause and increasing awareness of the vasomotor symptoms of menopause is the major factor driving the growth of the market.

The rise in the number of companies investing in clinical trial candidates and increasing investments in research and development is set to further enhance the overall market demand for the VMS market during the indicated period. (Source: IndustryARC research).

The global fertility services market is expected to almost double by 2026, becoming a \$41.4 billion industry.



Source: [Statista](#)



The most significant cause of the current trend is that women are more likely to choose to have a baby later.

The mean age of women giving birth to their first child was 29.4 years in 2019 in Europe. A growing number of people are also experiencing trouble conceiving, and therefore the market for fertility services has continued to grow. Latest technologies implemented in this regard are:

- In vitro fertilization
- Egg freezing
- Blood-based hormone home tests
- Saliva home test for ovulation

## Growing Popularity of Telemedicine

Telemedicine, which involves the use of technology to provide remote healthcare services, is another trend that is shaping the FemTech industry. Telemedicine is particularly useful for women who live in remote areas or who have difficulty accessing traditional healthcare services.

FemTech companies are developing telemedicine platforms that provide virtual consultations with healthcare professionals, allowing women to access healthcare services from the comfort of their homes. This trend is likely to continue as more women seek out convenient and accessible healthcare solutions.

In conclusion, the FemTech industry is rapidly evolving, and several key trends are shaping its growth trajectory. These trends include a rising demand for personalized healthcare solutions, increased focus on mental health and wellness

### Market Drivers:

- Growing interest of VCs and angel investors;
- Inclusive solutions for women's health and well-being;
- Increasing demand for reproductive health;
- Overall increasing demand for digital health solutions;
- Normalizing the conversation around taboo topics in women's health;
- Promoting women's sense of self-worth;
- Product innovations and partnerships to widen offerings;
- Growing prevalence of women-related diseases: economic burden of women's health is more than \$500 billion.

## Factors to Drive Development



Source: [FemTech Industry Landscape Overview Q2 2021](#)

### Future Directions to Focus in FemTech:

- Reproductive Health will retain its leading position as the most vital for women, however new and promising areas will be experiencing rapid growth.
- AI usage trend in FemTech companies for all subsectors and product types.
- Increase in the number of menopause-focused companies as millennials are maturing.
- Companies will concentrate more on developing personalized solutions for women's health issues.
- The Psychological aspect of women's health will receive more attention.
- Accessibility and affordability for less developed regions will be of high importance

# Use of Artificial Intelligence and Machine Learning in FemTech

**Artificial Intelligence is a technology based on the brain's biological neural network, which uses multiple layers of information, including algorithms, pattern matching, rules, Deep Learning, and cognitive computing, to understand and process data.** AI can have a profound impact on women's health outcomes in areas including ovarian, breast and cervical cancers; fertility; endometriosis; and polycystic ovarian syndrome.



















**Artificial Intelligence is extensively used in developing applications in all segments of the FemTech Industry. Its possible impact on FemTech includes the paradigm shift from disease management to Preventive Medicine.** AI technologies are actively involved in the shift from Preventative Medicine to Precision Health by utilizing nearly real-time assessment of biomarkers of aging, health, and Longevity to coordinate the creation of micro-dose interventions. Such AI-born interventions will help doctors to continually rebalance these biomarkers while maintaining an optimal state of precision health in women.

Applications of the virtual branch of AI include the following:

- AI diagnoses breast cancer from X-rays faster and more efficiently than doctors according to a study published in the journal *Nature*. AI cannot replace the diagnostician, but it can facilitate the diagnostician's task by acting as an examiner instead of a second radiologist. Experts note the much greater efficiency of using a neural network in the formulation of radiological diagnosis: AI describes an X-ray image in 3 seconds; a specialist describes an image in up to 20 minutes.
- AI can provide fast and reliable analysis of tissue samples to detect breast cancer metastases at the performance level of a seasoned pathologist, who has an unlimited amount of time. In addition, algorithm-assisted pathologists perform particularly well in the detection of micrometastases compared to unassisted pathologists and are more time-efficient in detecting these findings.
- AI-enabled tools can discover important relationships in the analyzed data and are used in many areas of medicine including drug development, diagnostics of various pathologies, treatment decisions, patient care, and financial and operational decisions.

The list above shows how FemTech is filling in the gap in women's healthcare by presenting innovative services to better serve women all over the world. A lot of the services offered by the companies in the FemTech Industry are services that traditionally would be inaccessible to a common woman.

## Examples of FemTech Companies Using AI

 United Kingdom	 Israel	 USA
 <b>Kheiron</b> Subsector: Women's Cancers Product: Software	 <b>Nuvo Group</b> Subsector: Pregnancy Product: Mobile App	 <b>Flo Health</b> Subsector: Period Product: Mobile App
 <b>Nurturey</b> Subsector: Pregnancy, Nursing Product: Mobile App	 <b>Gina Life</b> Subsector: General Healthcare Product: Software	 <b>Bloomlife</b> Subsector: Pregnancy Product: Connected Device
 France	 Estonia	
 <b>Apricity</b> Subsector: Fertility Product: Mobile App	 <b>Velmio</b> Subsector: General Healthcare Product: Mobile App	 <b>CureMetrix</b> Subsector: Women's Cancers Product: Software
 <b>Fizimed</b> Subsector: Sexual Healthcare Product: Mobile App, Connected Device	 Austria	 <b>iSono Health</b> Subsector: Women's Cancers Product: Connected Device
	 <b>SteadySense</b> Subsector: Fertility Product: Connected Device	

Source: [FemTech Industry Landscape Overview Q4 2021](#)

One example of data-driven female-targeted application is the Swiss Ava bracelet that helps in the predictions of the fertility cycle of women. Leading examples are FemTech is LactApp and BIOMILQ with their data/AI-driven approach at an affordable cost for breastfeeding mothers. Mothers ask questions based on their concerns and the app uses AI/Machine Learning (ML) to answer in real time (i.e., 98% queries answered autonomously while the remaining 2% require a virtual consultation with a LactApp specialist through the app). Using AI technologies and Big Data in diagnostics, personal care and well-being assists to better identify health problems faced by women, providing highly personalized solutions in a matter of seconds.

AI tech will allow beauty companies to create unique, fully customized, effective cosmetic products and gadgets. It will also make personalized and productive communication with brands the industry standard. As an example, **Haut.AI** is an innovative SaaS product that automates the collection of high-quality skin data and helps skincare brands build interactive product recommendations on e-commerce platforms. Photos are where the FemTech Industry can fully leverage AI tech to unlock the skin's potential, whatever the age, skin condition, or skin concerns. It should be noted that computer vision currently makes up one-third of the global AI business.

Nevertheless, the application of AI is a noticeable trend in other FemTech categories as the Longevity solution finder including diagnostics, sexual healthcare, general healthcare, and fertility.

Regardless of the current limitations, a great deal of the future FemTech will take the form of AI-powered software as a service (SaaS), including courses of monitoring and advice particularly reliant on Deep Learning such as that developed by Haut.AI.

## Navigating the Data Explosion in the FemTech Market Leveraging AI/ML

FemTech is an industry that is experiencing rapid growth as it focuses on providing products and services to improve women's health. However, there remains a disconnect between the definition of "FemTech" and "female health," with data missing in certain areas. This lack of uniformity and validation in available data not only leads to monetary losses but also slower segment growth.

To address this issue, AI and machine learning tools can be utilized to generate and analyze data. These tools can run surveys and analyze perceptions, sentiments, and more, generating data by ethnicity, usage, price, age group, and other factors. Manufacturers and service providers should invest in creating these databases to save money and effort and keep them updated on market demands.

Inclusiveness is also imperative for the success of this segment. While FemTech products and services are primarily developed by women for women, men also play a significant role in driving product portfolios in female health across pharma and medical devices. Therefore, data gathering should include both female buyers and male facilitators, adding more value to the insights gathered.

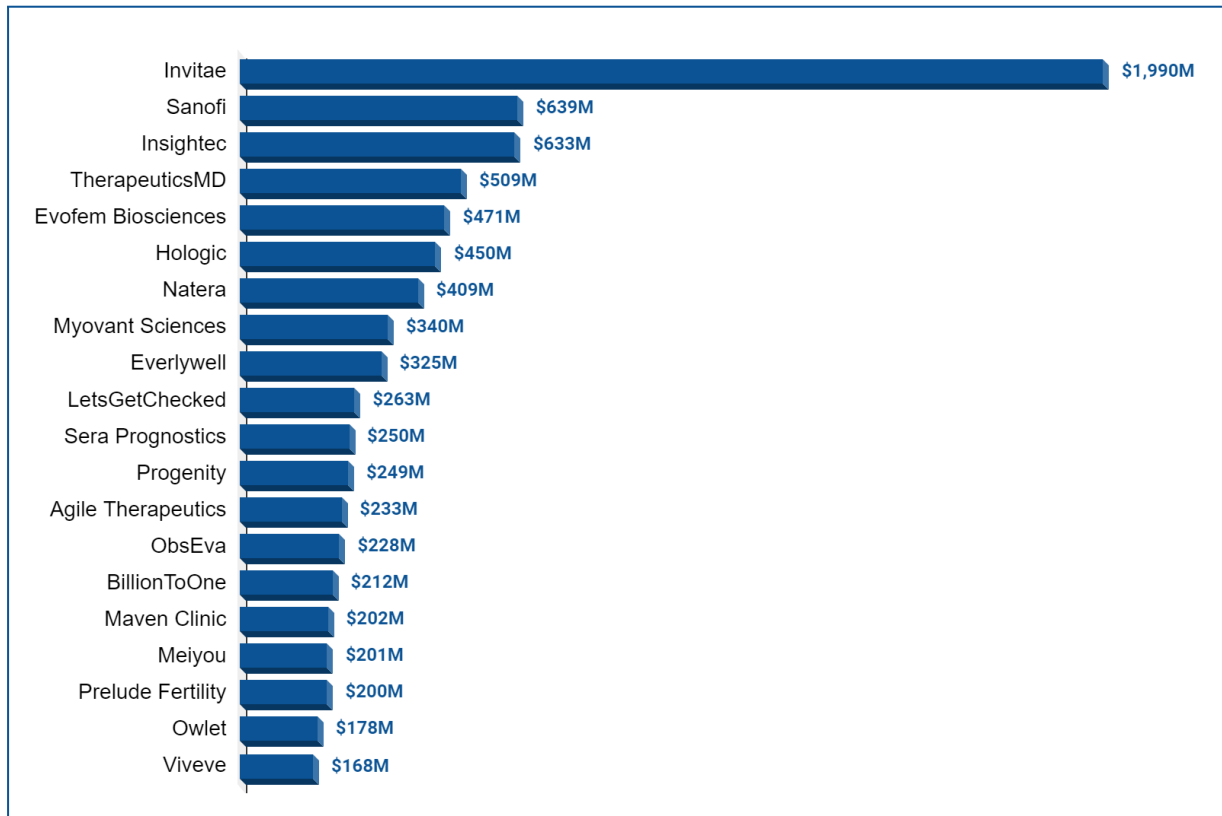
To further promote awareness and break taboos surrounding women's health, social media awareness campaigns, webinars, podcasts, and conferences are being conducted. However, it is essential to measure the impact of these initiatives to assess their effectiveness truly. By measuring the impact of campaigns such as menstrual leave in the workplace or men/boyfriends/fathers buying tampons for their loved ones, these campaigns can break taboos and create more awareness.

# Appendix

## A. Top 20 by funding and Opportunities in FemTech

As of Q2 2022, the following top 20 companies are the top FemTech companies selected by funding to showcase the wealth of opportunities on offer to health tech and life sciences.

**Top 20 FemTech Companies by Funding in Q2 2022**



Source: [Mindmap - FemTech Industry Landscape Q2 2022](#)

### Invitae

Subsector: Longevity

Headquarters: USA

[Invitae](#) aims to bring genetics to mainstream medicine to improve healthcare for billions. Invitae’s medical-grade genetic testing analyzes genes to find changes that can potentially lead to disease. The range of testing specialization includes Pregnancy, Staying Healthy, Cancer, and Genetic Illness. Their pre-pregnancy genetic testing and diagnostics services intend to set new standards of care for genetic screening of inherited disorders.

## Sanofi

Subsector: General Health Care

Headquarters: France

[Sanofi](#) is engaged in the research, development, manufacturing, and marketing of innovative therapeutic solutions.

## INSIGHTEC

Subsector: General Health Care

Headquarters: Israel

[INSIGHTEC](#) develops and distributes the Exablate platform, which provides noninvasive treatments for a variety of oncology and gynecology indications. The Exablate platform uses MRgFUS technology, which combines high-intensity focused ultrasound guided by magnetic resonance imaging. Focused ultrasound waves are used to safely ablate targeted tissue, ensuring a high rate of effectiveness with minimal side effects.

INSIGHTEC obtained FDA approval for its technology in 2016 and 2018. It is continuously investing in and expanding its current and investigational applications, ranging from functional neurosurgery to oncology and gynecology.

## TherapeuticsMD

Subsector: Menopause Care

Headquarters: USA

[TherapeuticsMD](#) is a pharmaceutical company focused on producing generic prescriptions and over-the-counter products for women.

## Evoform Biosciences

Subsector: Reproductive Health & Contraception

Headquarters: USA

[Evoform Biosciences](#) is a biotechnology company that develops reproductive and contraceptive care products for women worldwide. Its first commercial product, Phexxi vaginal gel, is for the prevention of pregnancy. Phexxi is a hormone-free, female-controlled, on-demand prescription contraceptive gel. Its pipeline product candidate, EVO100, is being evaluated for the prevention of chlamydia and gonorrhea - two of the pervasive sexually transmitted diseases in the United States.



## Hologic

Subsector: General Health Care

Headquarters: USA

[Hologic](#) engages in the development and supply of medical imaging systems and diagnostic products focused on the healthcare needs of women. The company operates in five segments: breast health (44% of sales), diagnostics (39%) surgical (14%), and skeletal health (3%). While the company traditionally focused on breast health, the acquisition of Gen-Probe put greater emphasis on commercial diagnostics. The United States accounts for the largest portion of the firm's revenue (74%), followed by Europe (12%), Asia (9%), and other international markets (5%). Hologic is headquartered in Bedford, Massachusetts.

## Natera

Subsector: Longevity

Headquarters: USA

[Natera](#) is a global leader in providing cell-free DNA testing across multiple clinical areas including women's health, organ health, and oncology. Natera offers a full menu of high-quality genetic tests to support the entire spectrum of women's health needs—from planning a family and prenatal testing to hereditary cancer screening.

## Myovant Sciences

Subsector: Menstrual Health

Headquarters: UK

[Myovant Sciences](#) developed Myfembree. Myfembree is a prescription medicine used to control heavy menstrual bleeding due to uterine fibroids in premenopausal women (before “change of life” or menopause).

## Everlywell

Subsector: General Health Care

Headquarters: USA

[Everlywell](#) is a digital health company that offers consumer testing, virtual care, at-home collection tests, and digital results. Women's health product line includes Women's Health Test, Ovarian Reserve Test, Perimenopause Test, Postmenopause Test, Fertility Test, HPV Test.

## **LetsGetChecked**

Subsector: General Health Care

Headquarters: USA

[LetsGetChecked](#) is an at-home health testing platform that connects customers to regulated laboratory testing. Particularly, the company provides women's health tests, catered specifically to the modern woman who wants to take control of her health

## **Sera Prognostics**

Subsector: Pregnancy & Nursing

Headquarters: USA

[Sera Prognostics](#) develops blood tests that are predictive of preterm birth, preeclampsia, and other pregnancy complications.

## **Progenity**

Subsector: Pregnancy & Nursing

Headquarters: USA

[Progenity](#) is an innovative biotech company that was founded in 2010 and went public in 2020. The idea is to improve the diagnosis of disease and improve patient outcomes through localized treatment with targeted therapies. Progenity is developing the Preecludia preeclampsia rule-out test to help physicians evaluate and manage their patients in a whole new way. For the first time in the US, physicians will have a test based on measuring biomarkers of the underlying pathophysiology of preeclampsia.

## **Agile Therapeutics**

Subsector: Reproductive Health & Contraception

Headquarters: USA

[Agile Therapeutics](#) is a pharmaceutical company developing contraceptive healthcare products for women. The company's initial product, Twirla, (levonorgestrel and Ethinyl estradiol) transdermal system is a non-daily prescription contraceptive. Twirla is based on proprietary transdermal patch technology, called Skinfusion, which is designed to allow drug delivery through the skin.

## **ObsEva**

Subsector: Reproductive Health & Contraception

Headquarters: Switzerland

[ObsEva](#) is a speciality biopharmaceutical company developing drugs for women's reproductive medicine.

## **BillionToOne**

Subsector: Pregnancy & Nursing

Headquarters: USA

[BillionToOne](#) is a precision diagnostics company that quantifies biology to create molecular diagnostics accurate, efficient, and accessible for all. The company's patent-pending molecular counter platform is a technology platform that can accurately count the DNA molecules to the single-count level. BillionToOne's mission is to make pre-natal testing safe and affordable for every expecting mother. Its novel technology can detect even single-gene disorders such as thalassemia through a simple blood test. They are replacing amniocentesis, an invasive and risky procedure that has a high miscarriage risk, with a safe and affordable blood test, starting with developing countries.

## **Maven Clinic**

Subsector: Pregnancy & Nursing

Headquarters: USA

[Maven Clinic](#) is a digital health platform that works with health plans and employers to offer virtual services for women's and family health.

## **Meiyou**

Subsector: Women's Wellness

Headquarters: China

[Meiyou](#) is software that provides assistance related to the menstrual health, beauty, and overall health of Chinese females.

## **Prelude Fertility**

Subsector: Reproductive Health & Contraception

Headquarters: USA

[Prelude Fertility](#) is a network of top-tier fertility clinics offering comprehensive fertility care.

## Owlet

Subsector: Pregnancy & Nursing

Headquarters: USA

[Owlet](#) Baby Care offers a health monitor that allows parents to view their child's vital signs in real-time.

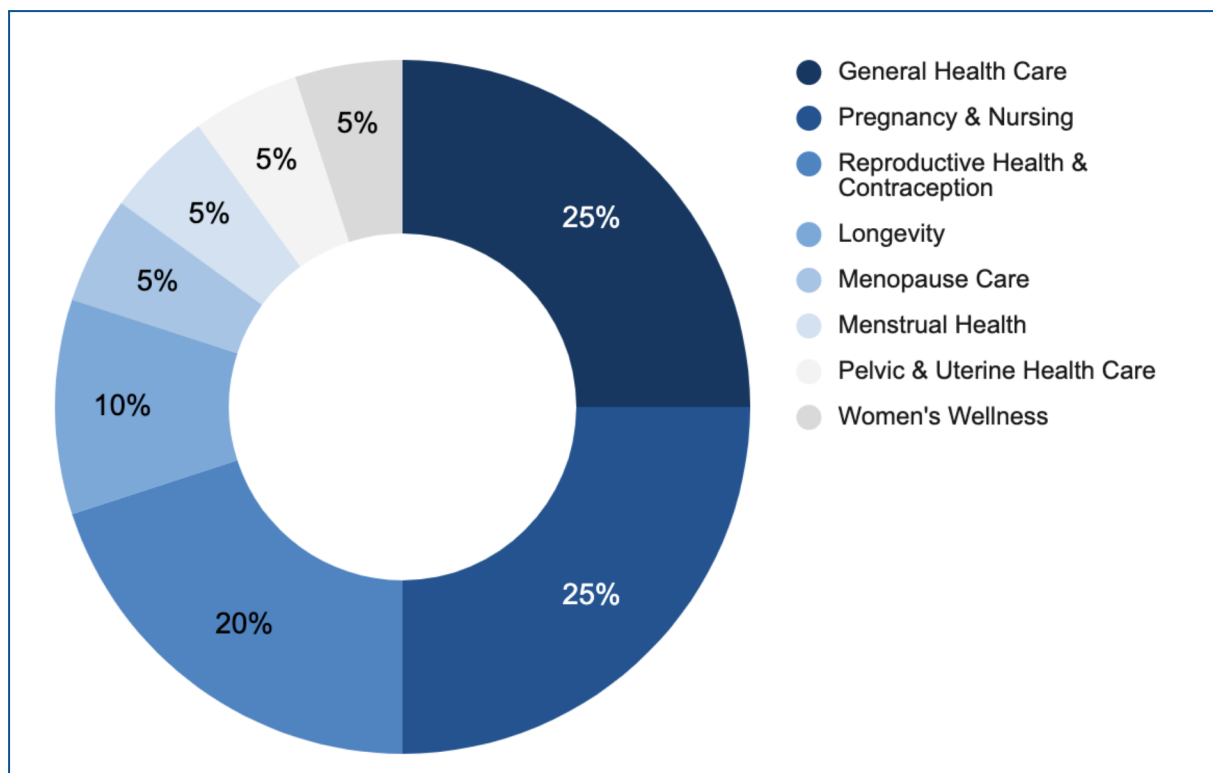
## Viveve

Subsector: Pelvic & Uterine Health Care

Headquarters: USA

[Viveve](#) designs, develops, manufactures, and markets medical devices for the non-invasive treatment of vaginal laxity. The company offers Geneveve, a non-invasive solution that includes the Viveve System, a radio frequency generator; a reusable handpiece and single-use treatment tip; and other consumable accessories. The Geneveve is indicated for use in general procedures for electrocoagulation and hemostasis in the US. The firm markets its products through sales employees and distributors in Asia, Europe, the Middle East, Latin America, the United States, Canada, and internationally. Englewood, Colorado, United States

### Top 20 FemTech Companies by Subsectors in Q2 2022

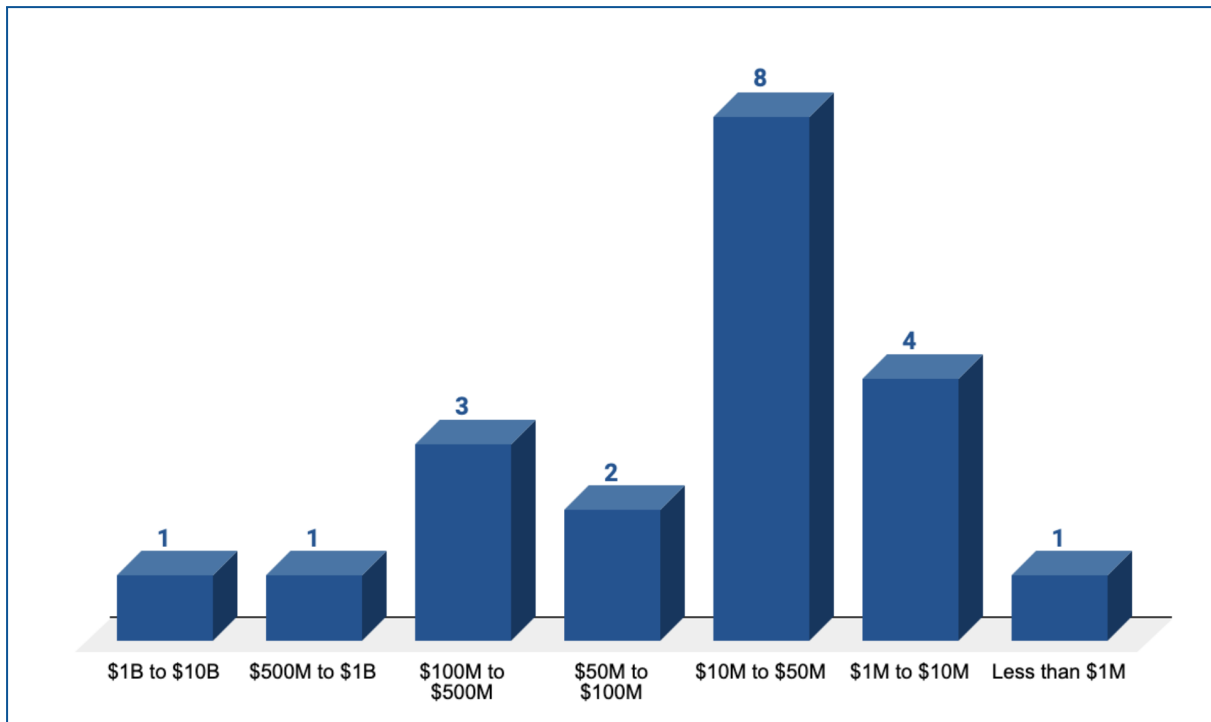


Source: [Mindmap - FemTech Industry Landscape Q2 2022](#)

General Health Care and Pregnancy & Nursing are the largest subsectors among the

Top 20 companies. General Health Care includes a wide range of services, from routine checkups and preventive care to more specialized treatments. Pregnancy & nursing, meanwhile, focuses on the unique needs of expectant mothers and new parents. Together, these two subsectors account for half of the Top 20 FemTech companies.

### Top 20 FemTech Companies by Estimated Revenue in Q2 2022



Source: [Mindmap - FemTech Industry Landscape Q2 2022](#)

Sanofi generates the largest revenue from \$1 billion to \$10 billion. Hologic is the second largest company with estimated revenue from \$500 million to \$1 billion, and Invitae is the third largest FemTech company (\$100 million to \$500 million revenue)

The FemTech market is rapidly evolving, with new players and products entering the space on a regular basis. This continuous innovation is driven by the ever-changing needs of women and the increasing awareness of the importance of health and wellness. FemTech companies are constantly launching new products and services that cater to the unique needs of women.

## B. Challenges and Obstacles in FemTech

Lack of investments remains the key barrier for FemTech development, admitted by 65% of respondents. About a half of them consider insufficient R&D funding and lack of public support. The negative impact of economic slowdown on FemTech along

with taxation risks weakens gradually.

In addition to that, the industry collides with **many other challenges**:

- Complicated integration with national health care systems and players;
- Complex and different from country to county law regarding sensitive data collection;
- Access to advertising, bans and censure;
- Lack of accessibility for marginalized groups due to typical price-points (among for-profit companies);
- Lack of understanding of the market size and problem by investors;
- Lack of academic research and innovators;
- Political roadblocks in ability to reach those with the worst health outcomes;
- Lack of regulation particularly around privacy and marketing threatens to undermine trust in the industry.

