



CTTC

Center for Technology Transfer
& Commercialization

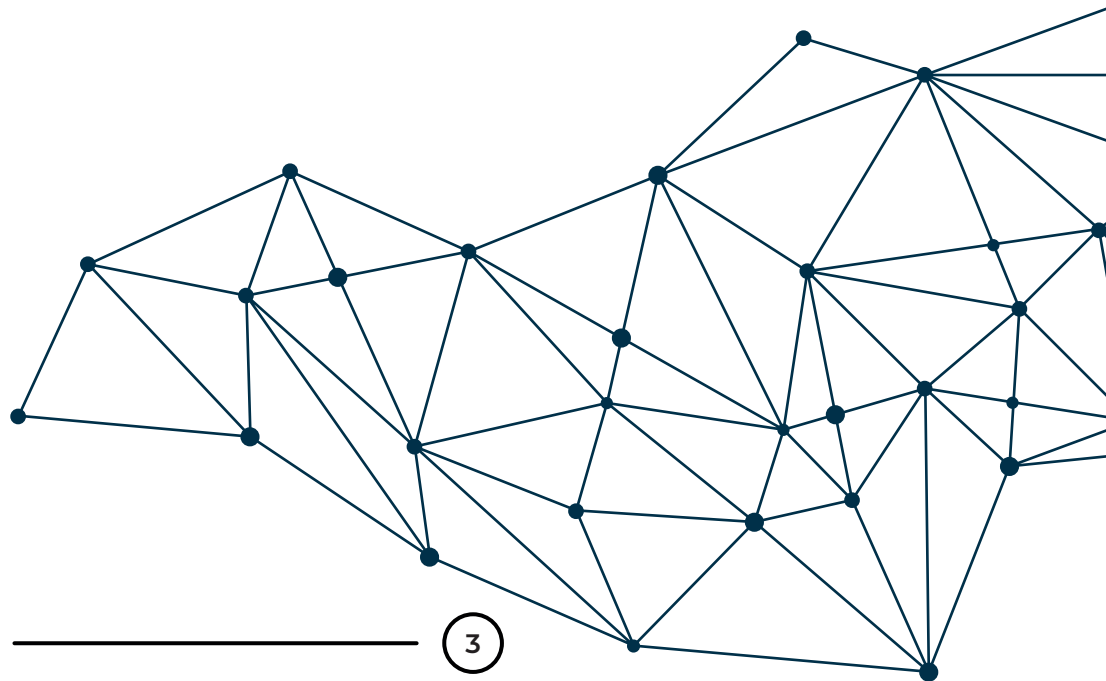
Vanderbilt University

MEDICAL DEVICE PIPELINE

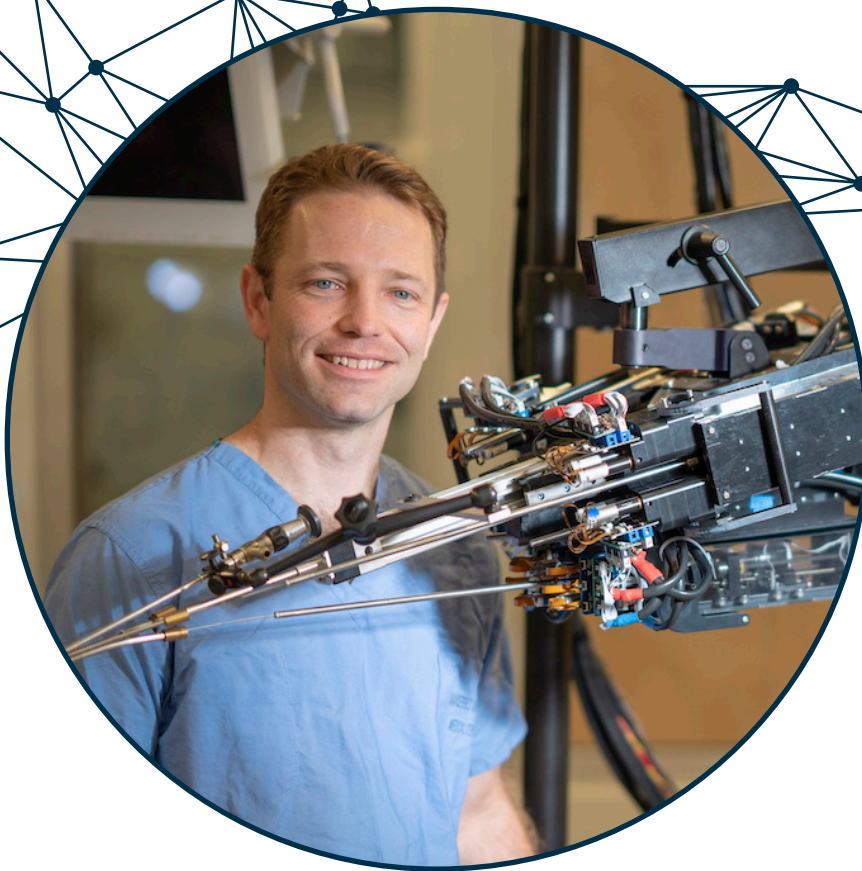
SURGICAL ROBOTICS
GI/ENDOSCOPY DEVICES
BIOMEDICAL PHOTONICS
NEUROSURGERY DEVICES
REHABILITATION TECHNOLOGIES
HEALTH CARE ACCESSORY DEVICES
BIOMEDICAL RESEARCH/DIAGNOSTIC DEVICES
SLEEP APNEA & ORGAN SUPPORT
CARDIOVASCULAR DEVICES
IMAGE-GUIDED SURGERY
SURGICAL TOOLS
CATHETERS

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WHO WE ARE

The Center for Technology Transfer and Commercialization (CTTC) provides professional technology commercialization services to the Vanderbilt community, so that we may optimize the flow of innovation to the marketplace and generate revenue that supports future research activities.

CTTC accomplishes this by serving as an efficient and effective conduit for the transfer of promising Vanderbilt intellectual property to industry; contributing to regional economic development by licensing locally and supporting new venture creation; and encouraging collaboration between academia and industry.

INDUSTRY COLLABORATION

Key to carrying out the mission of CTTC is the ability to form collaborative and professional relationships with companies in a variety of industries including space exploration, education, pharmaceuticals, healthcare/patient care, robotics, energy, environmental preservation, engineering, and many more. CTTC does this through:

Strategic Negotiation

Timely transactions are as critical for us as they are for our industry partners. We pay careful attention to negotiation timelines and work to ensure high levels of responsiveness and rapid closing of negotiations

Reasonable Diligence

Licenses must include reasonable diligence provisions to ensure that products based on Vanderbilt technology are developed and commercialized in a timely fashion for our benefit and the benefit of the public

Societal Benefit

Our motivations for commercializations are deeply rooted in benefiting individuals and patients on a global scale

Protection leads to Commercialization

CTTC views IP protection as a means to an end. The real focus is on commercialization of technologies

Focused on Transactions

CTTC's experienced team of licensing professionals are highly transactionally focused

Collaborative Research

CTTC highly encourages industry collaboration, either along with a license or as a precursor

Quality Driven

High quality contracts lay the foundation for strong and lasting partnerships. Repeat business is important to us



CORE RESEARCH CAPABILITIES

The Medical Device Pipeline highlights Vanderbilt's current collection of technologies that are the product of the university's commitment to collaborative, applied research in the fields of engineering and medicine. Vanderbilt has a number of Centers, Departments and Institutions that are paving the way for engineers and clinicians to work together to find innovative solutions to the world's health problems.

Vanderbilt Institute for Surgery and Engineering (VISE)

VISE is an interdisciplinary, trans-institutional center focused on the creation, development, implementation, clinical evaluation and commercialization of methods, devices, algorithms, and systems designed to facilitate interventional processes and their outcome. Areas of focus include: image-guided surgery; intelligent, flexible robotic manipulation; ultrasound guidance for surgical interventions; steerable needles; wireless capsule robotics, etc.

Vanderbilt University Institute of Imaging Science (VUIIS)

VUIIS operates state-of-the-art facilities for imaging research at all scales including imaging animals and human subjects. Areas of focus include: cancer, neurological disorders, metabolic disorders, cardiovascular disease, and others.

Vanderbilt Institute for Integrative Biosystems Research and Education (VIIBRE)

VIIBRE invents the tools and develops the skills that are required to conduct research in systems biology. Areas of focus include: cellular biosensors, bioprocess controllers, mathematical models for wound healing and cancer, infectious disease detection, biomedical imaging, and cellular/tissue engineering.

Vanderbilt Institute of Nanoscale Science and Engineering (VINSE)

VINSE is focused on new science and technology based on nanoscale materials. Researchers team locally and globally, providing an environment where physicists, chemists, biologists, and engineers may collaboratively solve forefront problems and create new scientific understanding. Areas of focus include: nanobio, nanoscale electronics and optics, nanoscience theory, nanotechnology and new materials.

Department of Biomedical Informatics (DBMI)

Vanderbilt's DBMI is the largest academic department of biomedical informatics in the country, with more than 65 faculty members. Areas of focus include: computer science, information science, cognitive science, social science, engineering, and clinical and basic biological sciences.

Center for Rehabilitation Engineering and Assistive Technology (CREATE)

CREATE focuses on restoring health, mobility, independence and societal participation to individuals with disabilities by designing, developing and controlling next-generation assistive and rehabilitative technologies, such as prosthetic limbs and robotic exoskeletons. The Center is led by Michael Goldfarb and Karl Zelik and consists of a state-of-the-art 3000 sq. ft. motion analysis lab for human subject experiments, plus about 3000 sq. ft. of engineering and fabrication space.

Vanderbilt Biophotonics Center

The Biophotonics Center is a trans-institutional initiative that focuses on the development and application of photoic technologies for fundamental discovery and clinical translation in biomedicine. Areas of focus include: cancer photonics, neuro-photonics, and multiscale photonics.

Clinical Translational Science Award (CTSA)

The Clinical and Translational Science Award (CTSA) grant, the largest single government research grant in Vanderbilt's history, is aimed at expediting the translation of laboratory discoveries to patients in the community. The grant helps fund the [Vanderbilt Institute for Clinical and Translational Research \(VICTR\)](#), which provides access to resources, training and collaboration, and informatics and biostatistical systems to support translation of fundamental science discoveries into clinical practice.

Medical Products Support Services (MPSS)

Vanderbilt's Medical Products Support Services (MPSS), supports investigators who are involved with Food and Drug Administration (FDA) regulated device research. It provides a list of services including early device development guidance, regulatory guidance, Investigation Device Exemptions support, and more.



Vanderbilt University completed construction of a 230,000-square-foot Engineering and Science Building (pictured above) that fosters project teamwork and offers programs, instrumentation areas and core research space that promotes interdisciplinary work, particularly in engineering and related fields.

IMAGE GUIDED SURGERY



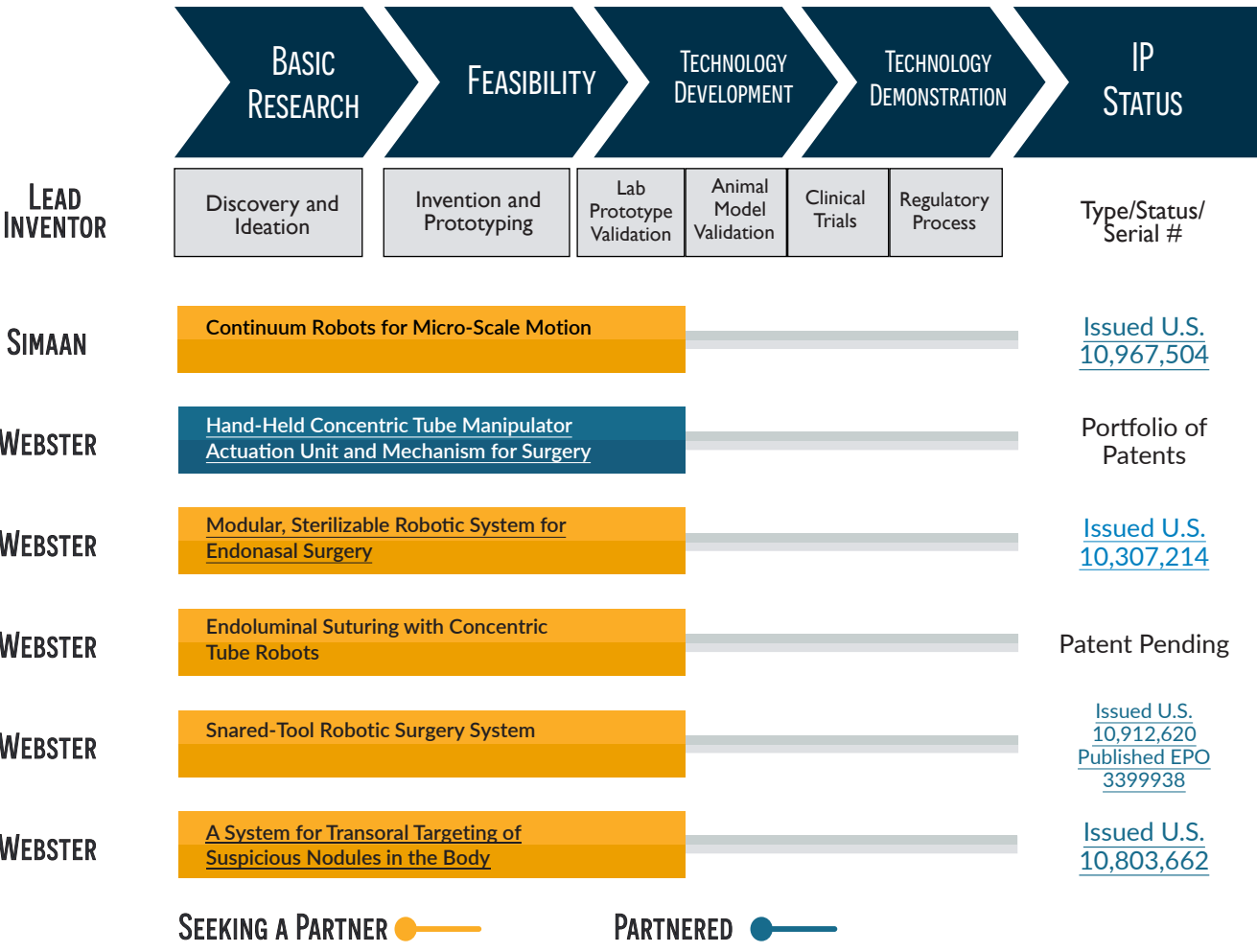
SURGICAL ROBOTICS



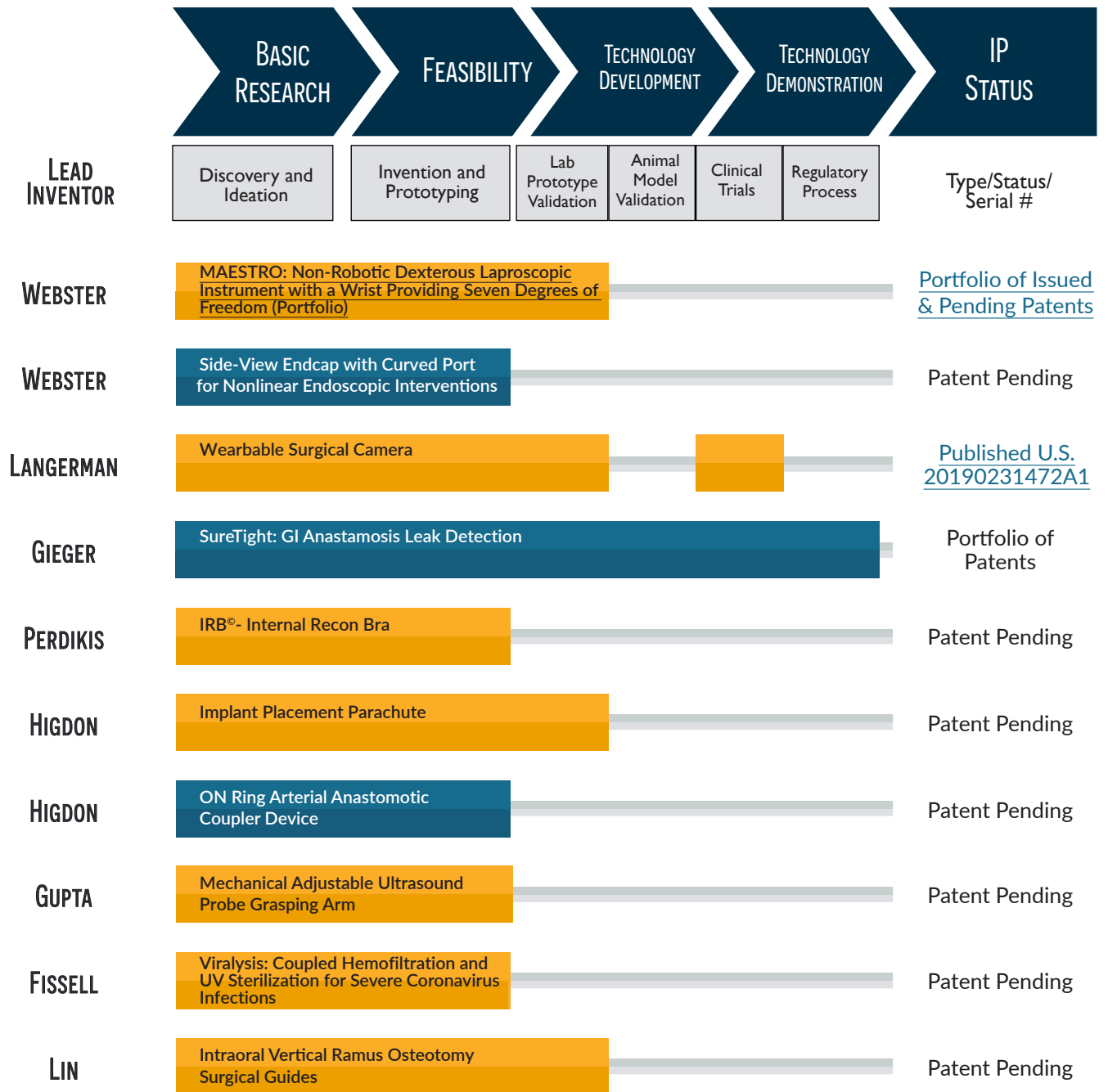
SEEKING A PARTNER ●

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SURGICAL ROBOTICS (CONT.)



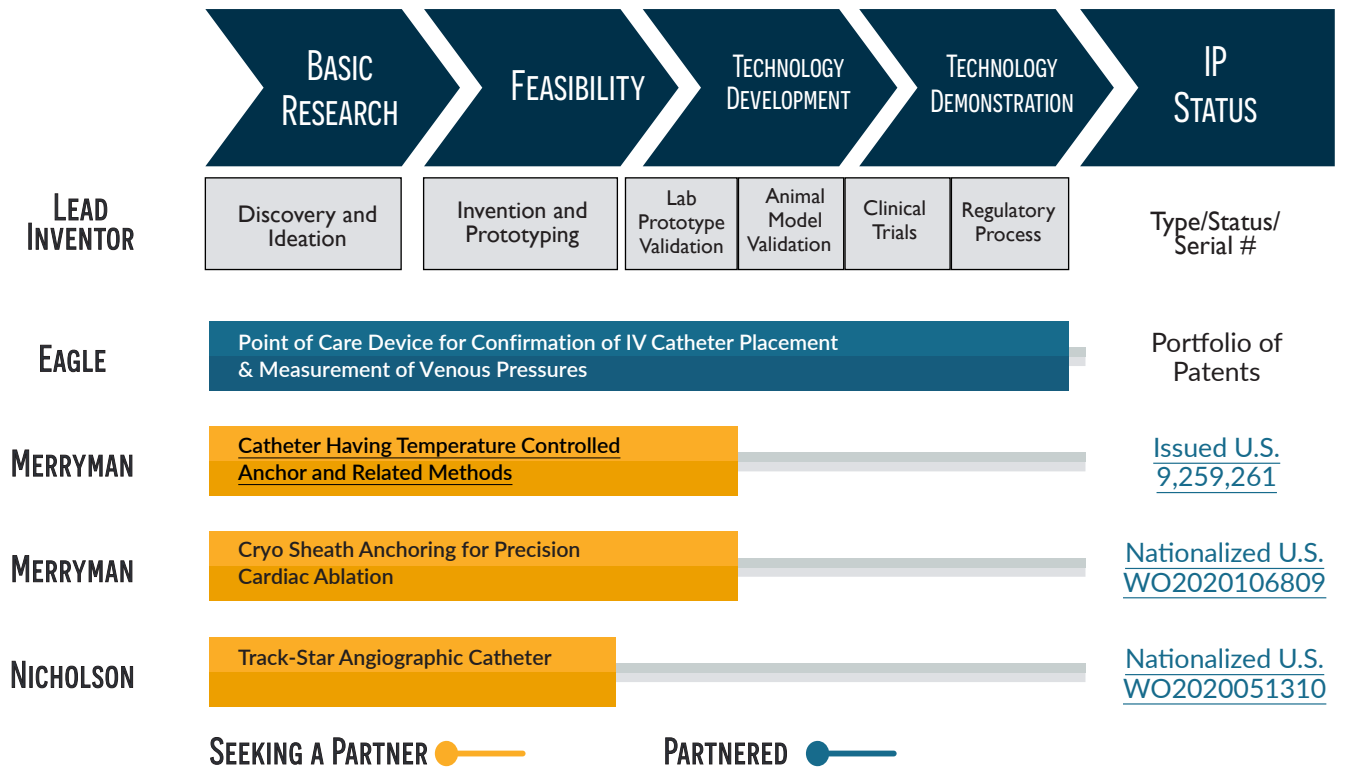
NON-ROBOTIC SURGICAL TOOLS



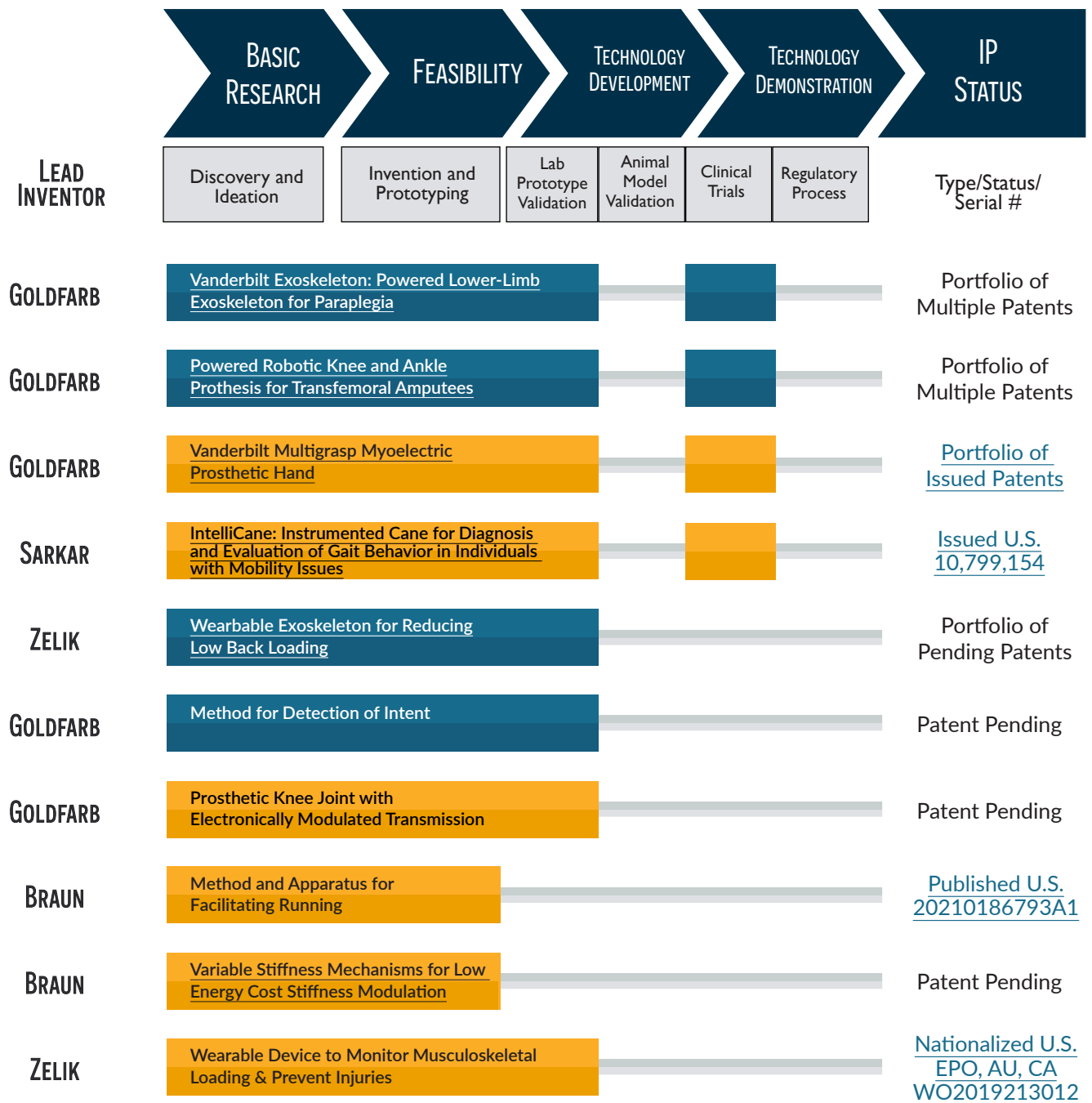
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CATHETERS



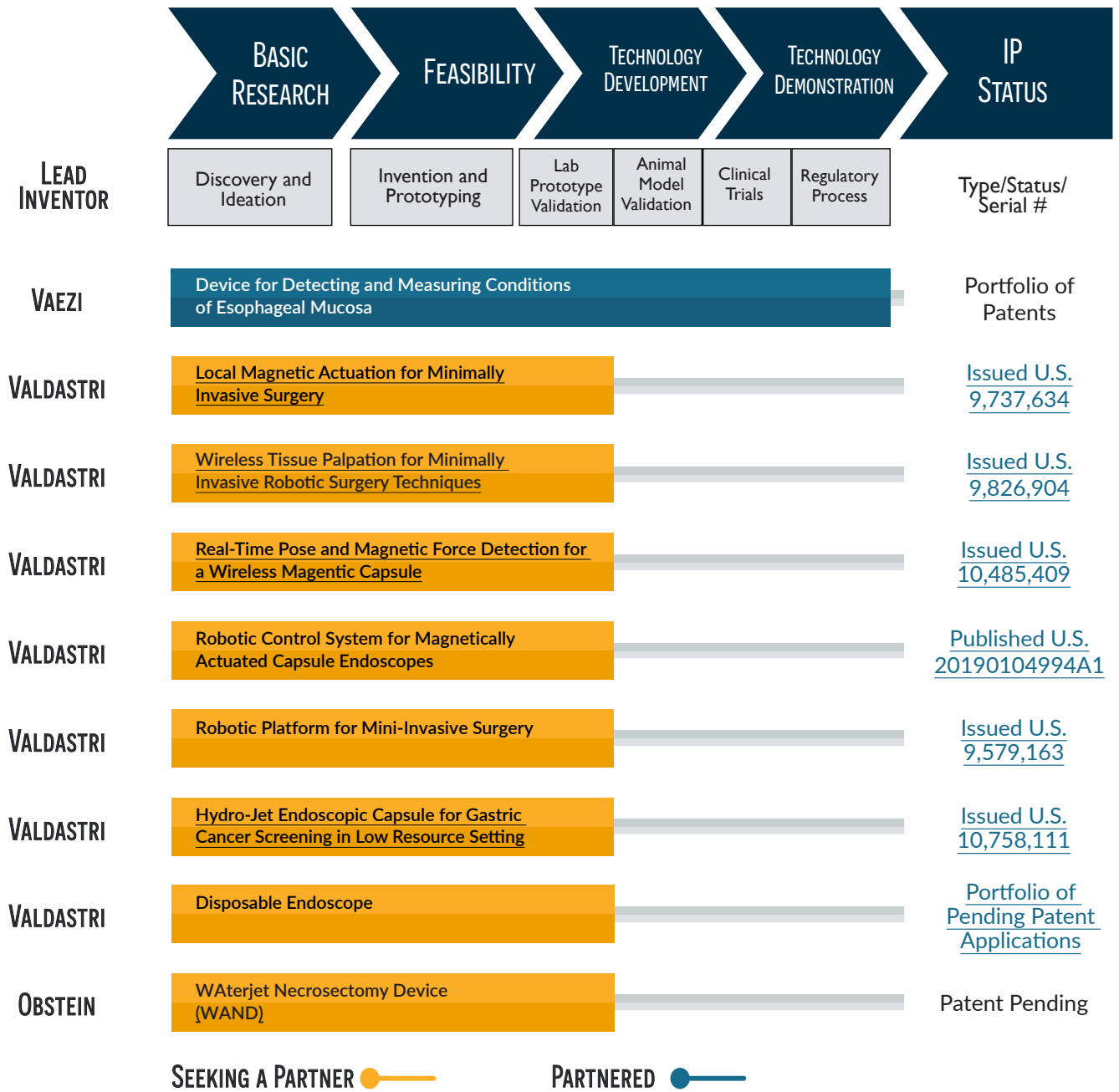
PROSTHETIC & REHABILITATION



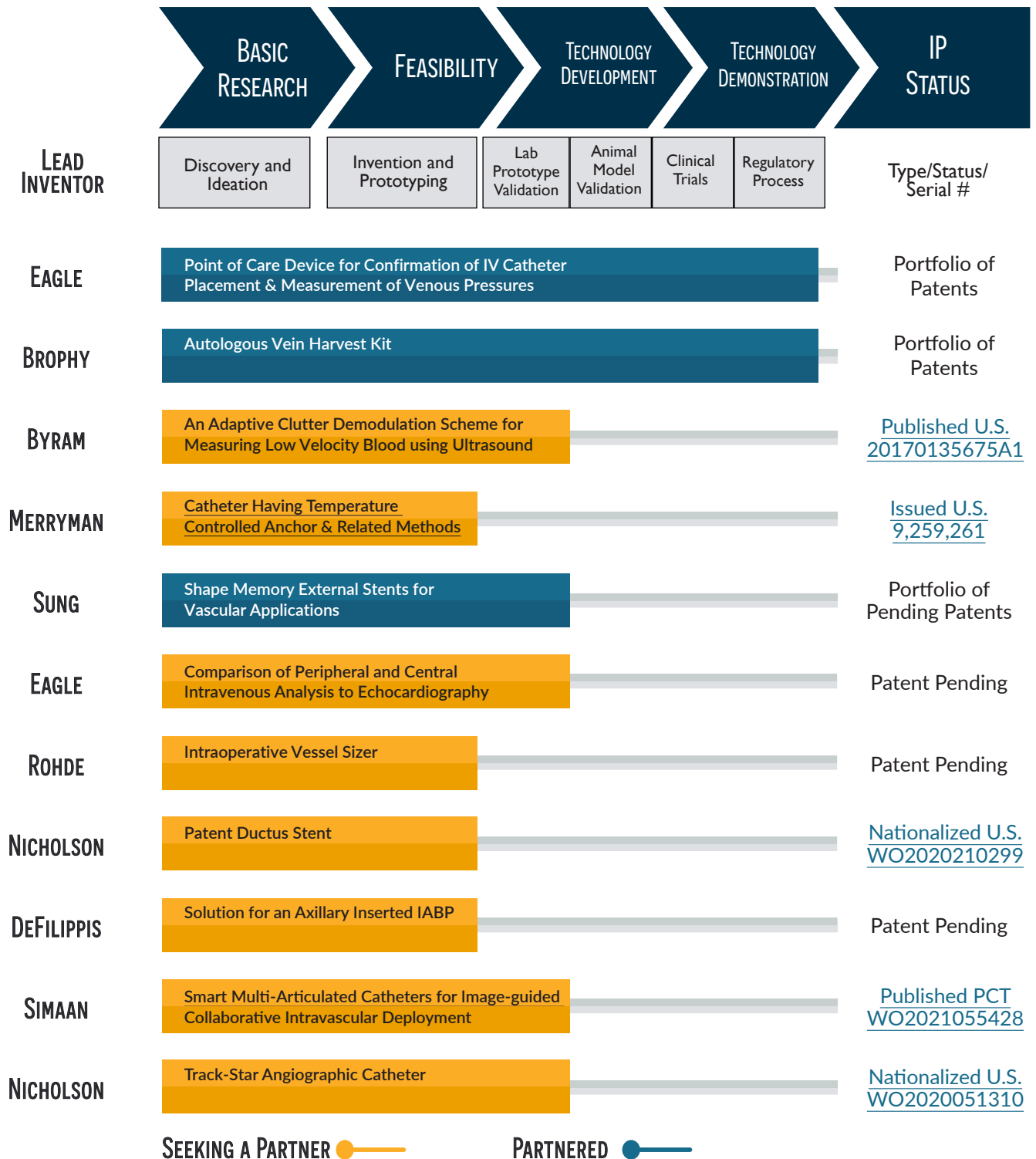
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GI/ ENDOSCOPY



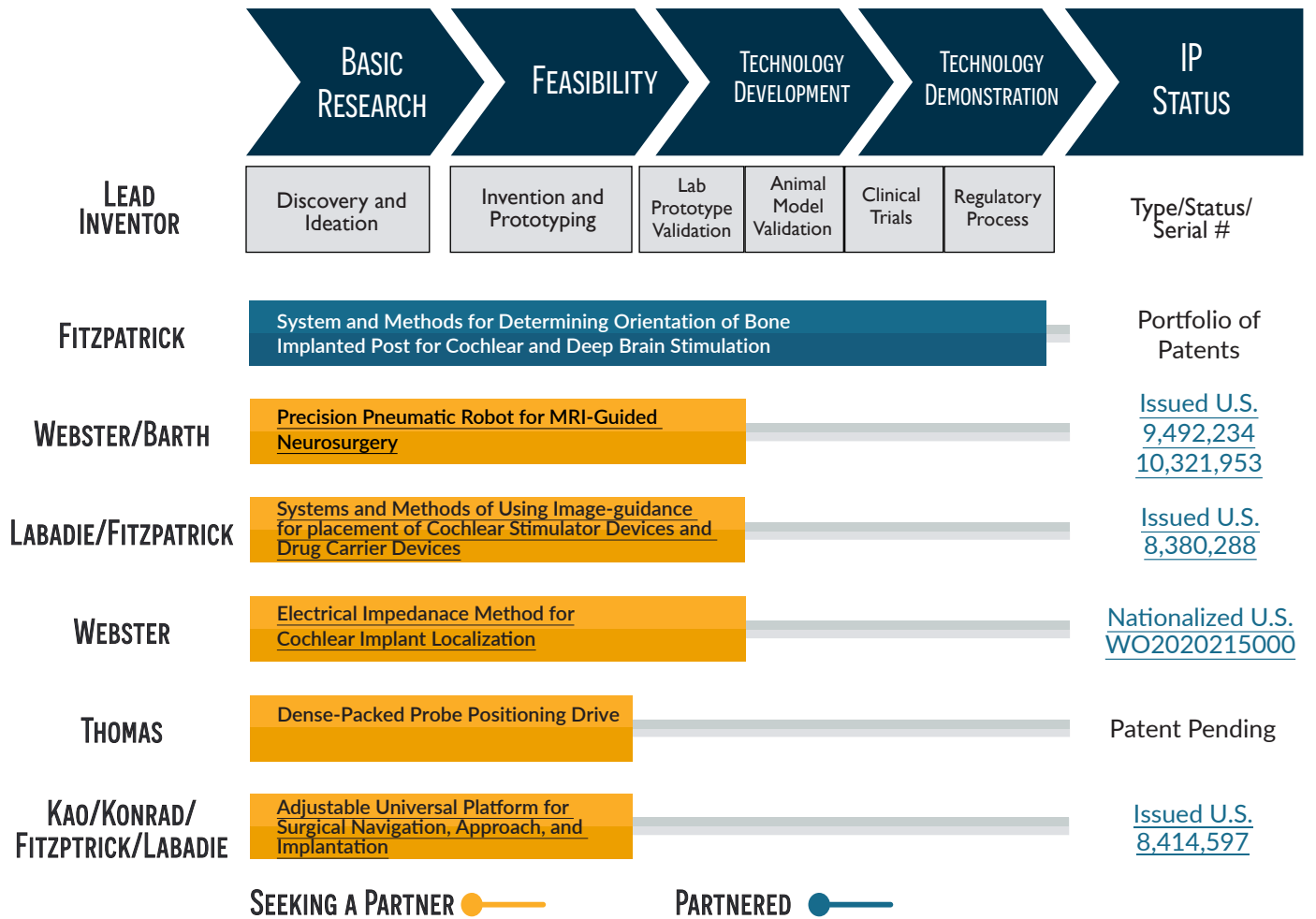
CARDIOVASCULAR



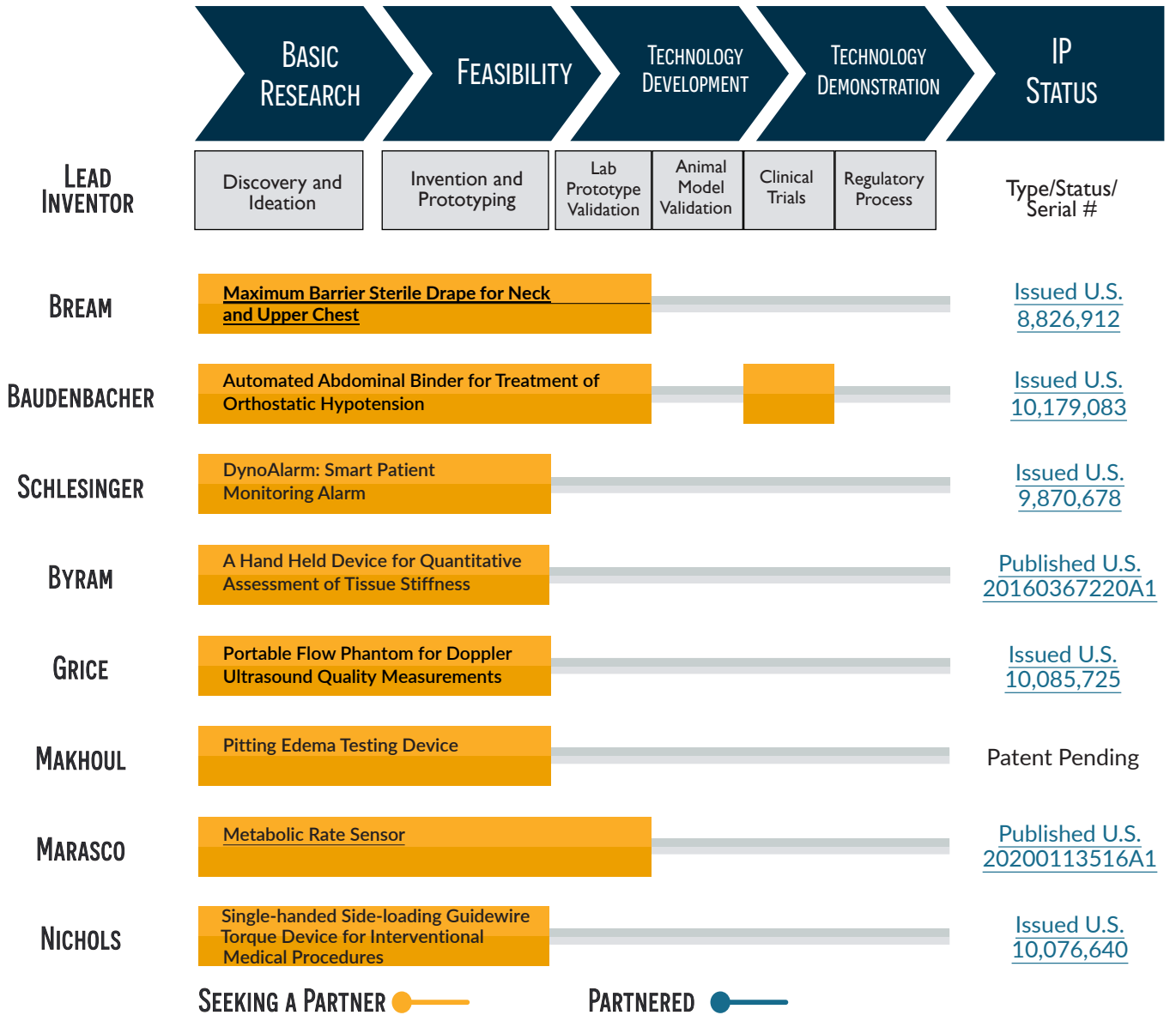
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NEUROSURGERY



HEALTH CARE ACCESSORIES



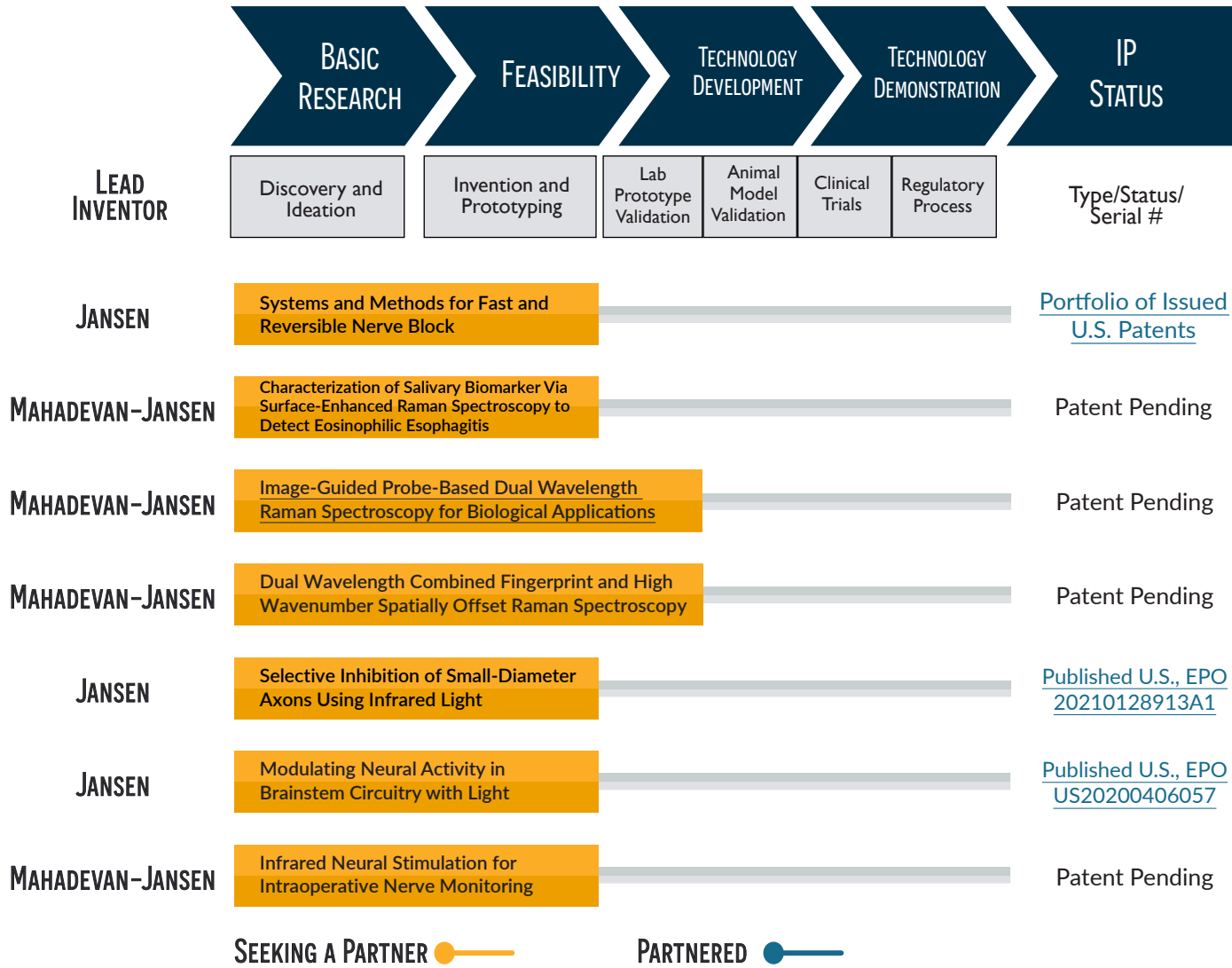
BIOMEDICAL PHOTONICS



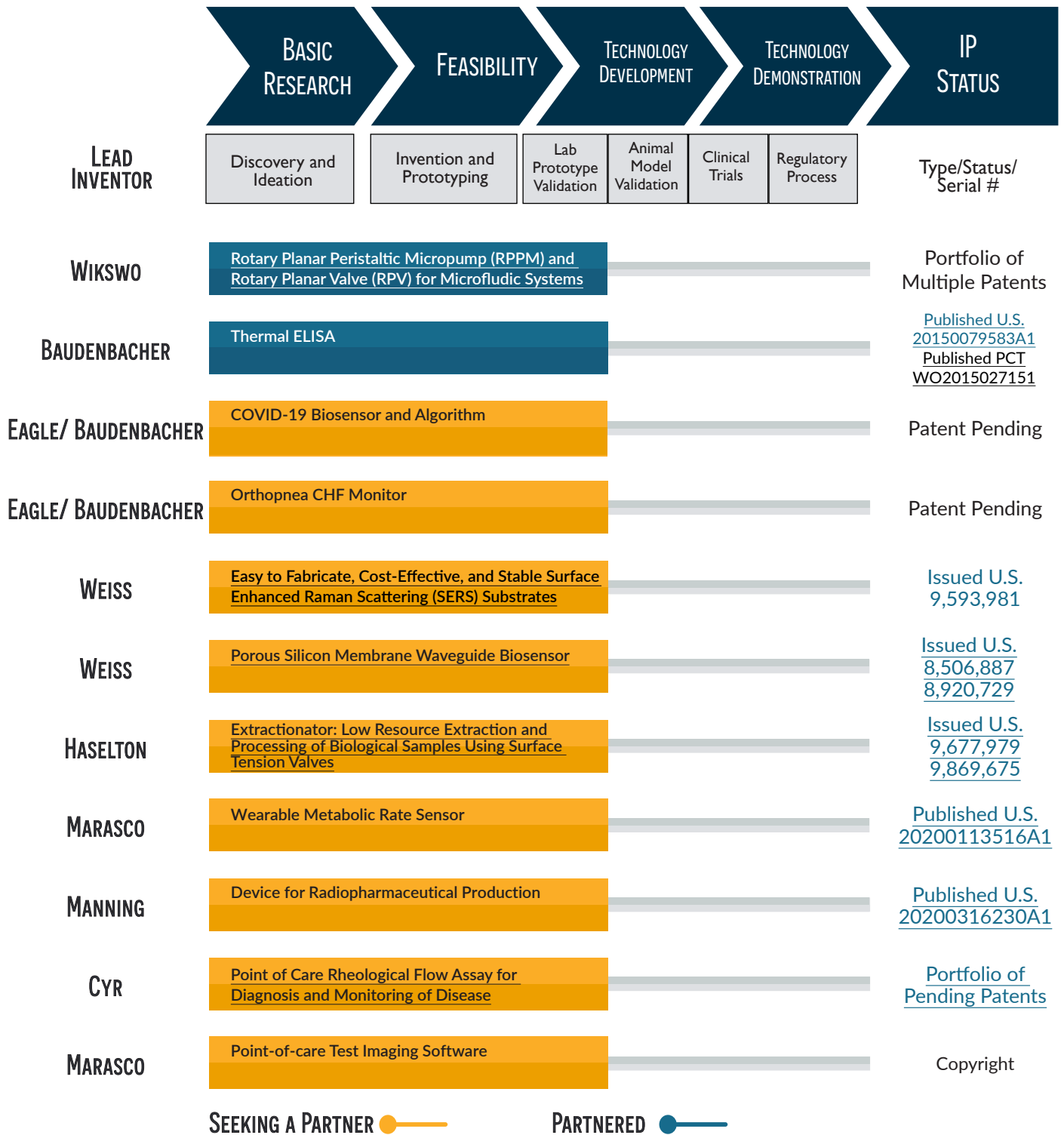
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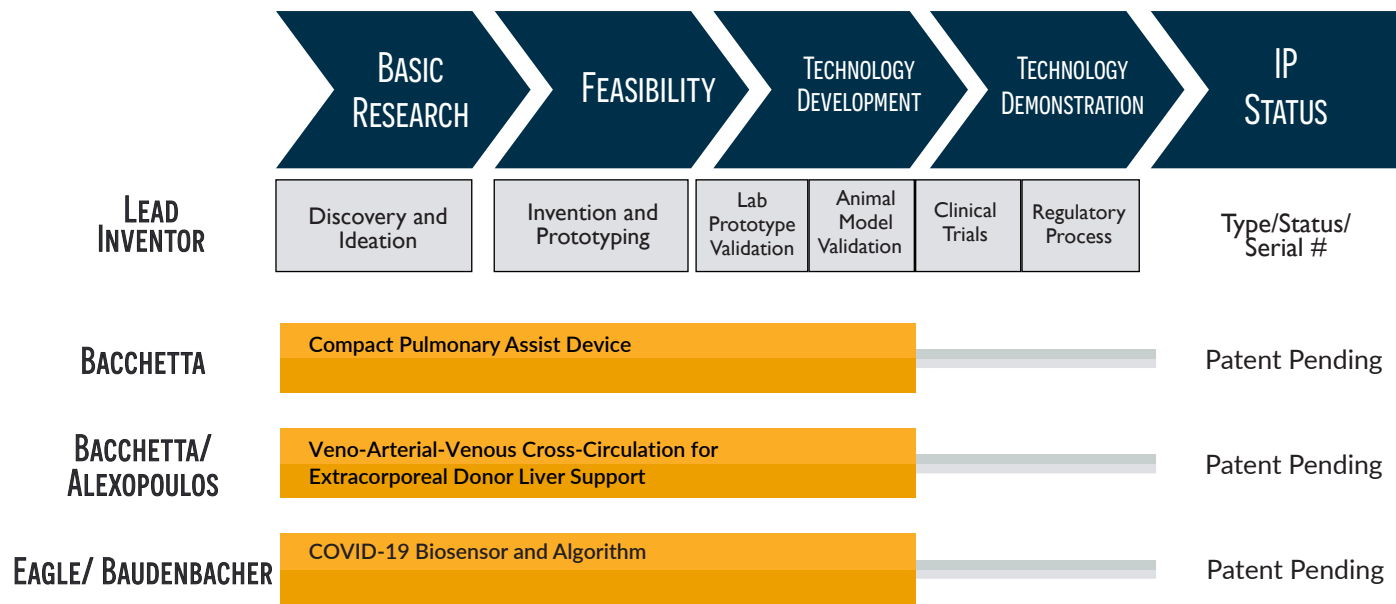
BIOMEDICAL PHOTONICS (CONT.)



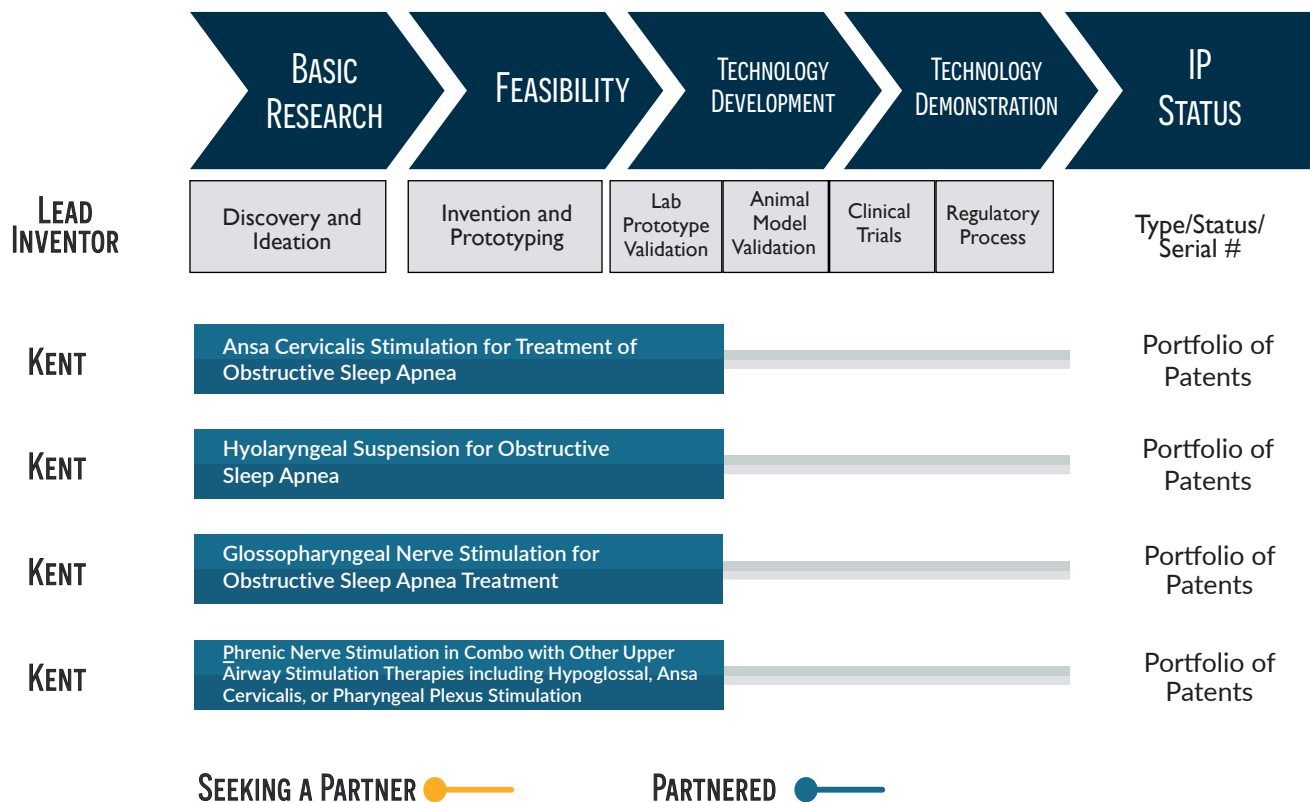
BIOMEDICAL RESEARCH/ DIAGNOSTICS



LIFE SUPPORT & ORGAN TRANSPLANT



SLEEP APNEA TREATMENT



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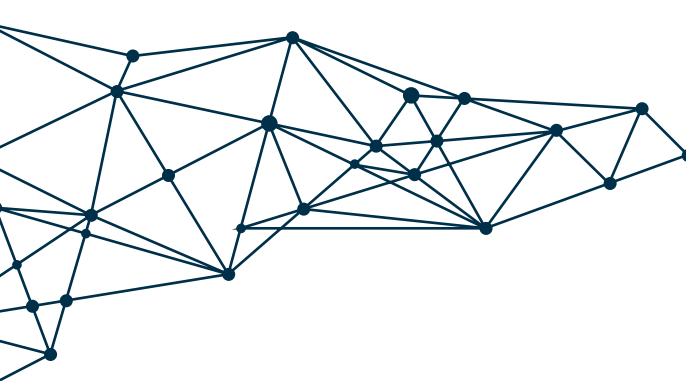
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VANDERBILT RESEARCH QUICK FACTS

✓ Vanderbilt University is ranked 14th among the best national universities.

✓ Vanderbilt is home to one of the oldest Biomedical Engineering Departments in the country, dating back to 1968.



✓ The School of Engineering ranks 41st for graduate engineering programs.

✓ Vanderbilt sponsored research and project awards total \$824 million in FY20.



The close proximity of the Vanderbilt School of Engineering and Vanderbilt University Medical Center enables a culture of interdisciplinary collaboration in research and education. The addition of the Engineering and Science building in 2016 brings further opportunity for collaboration with seven floors of state-of-the-art research spaces and an innovation center called the Wond'ry.



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