

TC BEAT

The Traverse City BEAT

Biomedical and Energy Advancement Technology Center

The TC BEAT is center providing consumer and corporate services, serving the health and energy sectors with unique integration of concept, services and community benefits. This center is located in the vicinity of Traverse City, Michigan. The BEAT provides a complex of specific services in areas of personal and community healthcare and also in consumer-focused areas of energy and environment. It also provides a complement of specific services for corporate, academic and public-sector institutions within both the health and energy sectors for product and service trials, tests and market introductions.

The BEAT is happening in a uniquely-designed building with innovative ergonomic, energy, and aesthetic qualities in its design and construction, providing an aesthetic and pleasing setting for all functions, with strong emphasis upon quality, ecological balance and integrity, expansion of services, and long-term endurance. It is a place not only for client services but a place to visit and experience, for individuals, families, and visitors to the region.

This structure is presently in its architectural design phase. The location is in a setting that is close to other commercial and particularly medical and other related healthcare offices as well as centers of business in the energy and construction sectors. The chosen location provides a natural environment conducive to and in keeping with the spirit of health, vitality, and aesthetic harmony. Art inside, Nature outside, and wonders for mind and body, heart and home, provided by the people inside.

The following brief remarks provide an introduction to the BEAT for persons who are interested in its development and function for multiple reasons:

- clients of healthcare practices operating in the BEAT
- practitioners and service providers in both the biomedical and energy sectors
- businesses involved in clinical tests and trials and/or market demonstrations and introductions of new products and services to both professional and consumer populations
- providers of service for all aspects of construction and maintenance, as members of the financial community
- members of the general community with interest in what is coming and how it will fit in and serve well the common interests of many.

The TC BEAT is introduced herein by a few brief statements and a diagram (see below) that illustrates its functions and its physical layout. This diagram is sufficient to convey what most readers will want to understand - the what and how or everything fitting together for the common good of users, clients, practitioners, providers and the general community.

The combination of "biomedical" and "energy" functions and services is unique to the BEAT. This combination of services addresses a complex of needs, wants and desires within people as individuals, families and communities. It provides mutual enhancement to providers and clients alike of all types.

This unique synthesis enables persons and audiences coming to the BEAT - in-person and also through distance-based online venues - to visually and directly see, experience, learn about innovations and advances that are available and practiced widely today. These serve the healthcare domain, spanning both physical and psychological medicine, with a focus upon neuromuscular, cardiovascular, and autoimmune-related conditions, syndromes and diseases. They also provide complementary and supportive innovations and advances available and practiced today within the energy domain, focusing on the homes we live in and the places we work, for enabling more comfortable, economical and pleasurable live experiences for all, and spanning electrical power, HVAC, water, air quality, and the breadth of environmental and climate concerns for our homes and workplaces.

BEAT is best described first by a few brief statements:

§ *A center for introducing new products and services for the public, offering market-mature products and services, plus a full spectrum of alpha, beta, gamma public testing and trials, with a focus upon energy and healthcare.*

§ A nexus for refining and introducing new technologies that are in the form of new products and services, focusing upon medicine and public health and also energy and environment, which are applicable to consumers who are residents and businesses, for their current and future needs and desires.

§ A center for clinical trials and market introductions of multiple types, focusing upon (i) approved (FDA, EPA, CDC) pharmaceuticals and medical devices, ranging from diagnostics to therapeutics, including pharmaceutical and non-pharma technologies, and (ii) energy production and storage devices.

§ A coordinator of public awareness and education in matters of health and energy, broadly considered, for the general public and in particular for youth in elementary and secondary levels of education.

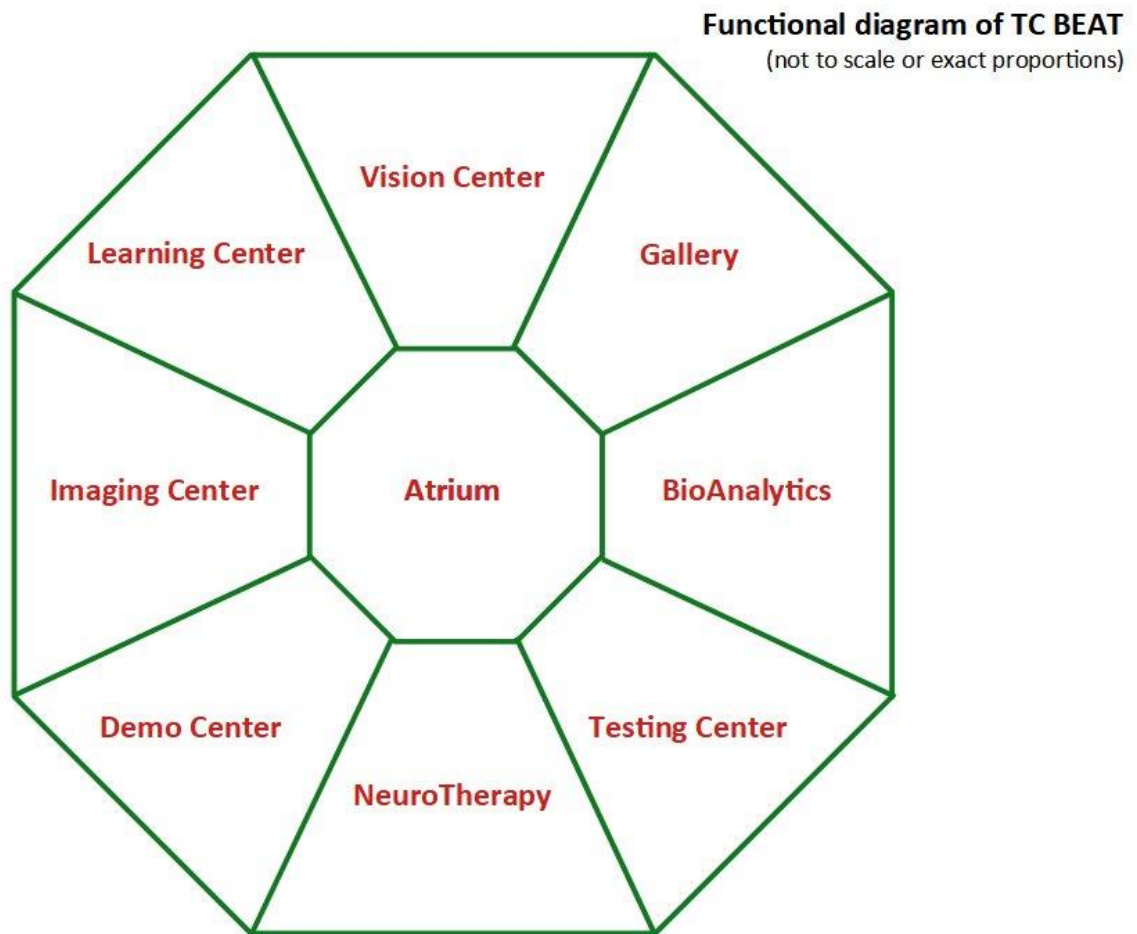
§ A coordinator and facilitator for interaction and collaboration within the business sectors of entrepreneurship, investment, and proactive commercial development, focusing upon both the biomedical and energy sectors.

§ A partner with regional organizations and entities for advancing and supporting the growth of the urban and regional communities in all aspects of future growth for residence, commerce, tourism and environmental conservation and preservation.

§ A resource for research and development groups within the academic and corporate world to introduce, demonstrate, evaluate and improve their products and services through engagement in "alpha" and "beta" testing and trials, with consumer populations, including visitors to the BEAT center.

§ An attractor for educated professional populations to visit, to organize and attend conferences and workshops, and potentially to relocate offices and residences to the city and/or region.

§ A powerful force for socioeconomic growth and stability that empowers the community and region to be much more attractive, competitive and valuable for its residents and business interests.



The principal functional components of the BEAT are independent, cooperative, collaborative entities managed and operated by their respective owners and practitioners, within the context of a wholistic-focused base which is designed, coordinated and managed cohesively by a core team of facilitators with expertise spanning the different scientific, technical and medical disciplines, markets and functions. The BEAT is a not-for-profit enter created by and administered by the ARC, a non-profit research, education and facilitation organization.

These principal components consist of four biomedical-centric units (Vision, Imaging, NeuroTherapy and Bioanalytics) and four components that integrate biomedical+energy services and technical/market development (Learning, Demonstration, Testing and Gallery). These are described as follows:

[1] The Vision Center - bringing to the USA an expansion of the Canadian-founded pioneer in custom design of eyewear with specialization in binocular dysfunctions and advances in lens-crafting that include biometric lens-fitting.

The Vision Center is an expansion from Ontario with over 40 years of consistent services to customers in North America and overseas, and the provisioning of a 150-year successful tradition of European lens-making now available only in North America through the Vision Center.

[2] The Imaging Center - bringing in a suite of advanced, proven and widely-accepted biomedical imaging technology for a variety of clinical applications, serving providers and patients regionally and distance-based.

The projected roster of technical services employed by the Imaging Center includes:

- OpenMRI
- fMRI (Functional MRI)
- fNIRS (Functional Near-Infrared Spectroscopy)
- MEG (Magnetoencephalography)

[3] The NeuroTherapy Center - focusing upon neuromuscular and neuropsychological conditions - including several autoimmune disorders, cardiac and gastrointestinal arrhythmias, cardiomyopathies, certain cognitive disorders including Alzheimer's and other dementias, several infectious diseases including COVID and Long-COVID, and mental health issues including anxiety, depression, chronic fatigue, PTSD, and CTSD. These constitute what are known in research circles as the "Neuroplex" disorders and diseases, and collectively these are known to be increasing within contemporary society.

The NeuroTherapy Center provides clinicians with a suite of very advanced technologies applicable to a large and growing set of disorders and diseases which until recently have provided insurmountable barriers for effective treatments and where reliance upon long-term pharmaceutical or acute surgical procedures have been the only and often very undesirable alternatives at best.

The roster of clinical services by the NeuroTherapy Center includes:

- TMS (Transcranial Magnetic Stimulation)
- EROS(Event-related Optical Signal)
- PBM (Photobiomodulation) and NIR (near-infrared-light)
- VNT (Vision-based neurotherapeutics, incorporating VR, AR and SI technologies, with particular focus upon functional recovery therapy for traumatic brain injury and stroke)
- BioEMF (Bioelectromagnetics)
- Neuromodulation (non-invasive)
- Ultrasound therapeutics (specific and non0-specific frequency modulation)

- Neuromuscular therapeutics (non-invasive)
- Nutritional consultation and guided practice-focused
- Nature Therapy (both self-managed and assisted)
- Meditation and mindfulness practices (both self-guided and coordinated)

[4] The BioAnalytics Lab - bringing the newest and most refined methods of micro and nanoscalar biochemical analysis that is available with a focus upon preventive and prophylactic healthcare, early indicators, early-stage proactive therapeutics, and stabilization and recovery in more progressed diseases. (The Lab works in cooperation with other established laboratory and analytic providers for standard blood and other biomedical testing.)

The roster of technologies employed by the BioAnalytics Lab includes:

- SIMOA (single-molecular assays - both singleplex and multiplex - parts-per-quadrillion measurement of critical proteins, enzymes and other compounds, a technology applicable to a wide range of health conditions and diagnostics including Alzheimer's, MS, inflammations)
- PCR (polymerase chain reaction DNA/RNA analysis, for multiple conditions and microorganisms, applicable for both human testing and other bio-sampling needs)
- Anti-oxidant measurements (non-invasive, for persons and food products)
- Genetic Testing for indicators of active or at-risk conditions and potentials, and family planning

Important Points on the Biomedical Activities at the BEAT

All biomedical and health-related functions provided through the BEAT meet the following specifications, requirements, and community objectives:

- FDA-approval and (in all cases albeit some limitations) approved by major health insurers
- Consistent with modern medical practice in USA and worldwide
- Proven through extensive research and clinical trials
- Emphasis upon integrative and wholistic philosophy and practice for health and lifestyle
- Designed and empowered and deliver to be in cooperation with medical, psychiatric and psychological practitioners and providers (locally and remotely based), with whom the BEAT will cultivate cooperative referral and partnership relations. This involves the BEAT Referral Network, a bidirectional proactive professional referral system open to all health providers.

[5] The Testing Center - bringing a unique opportunity to institutions developing and introducing new products and services, for a full range of formal as well as informal testing and trials. These can include - managed by expert partner affiliates - clinical trials of medications, procedures and instruments, alpha product testing, beta product testing, and ongoing follow-up monitoring through consumer groups and professional panels.

The scope of the Testing Center is for:

- Medical products
- Energy products for the home and business.

The range of products in the biomedical area is open-ended and spans all aspects of healthcare. The range in the energy area emphasizes smart homes, smart beds, and eco-practical energy production, storage and distribution. This includes VAWT wind power (compact, [portable, noiseless]), innovative solar power including polymer-film systems, geothermal systems, and hydrogen fuel cell systems. All of these are employed directly in the integrated energy framework for the BEAT physical campus.

[6] The Demo Center - bringing an opportunity for producers and consumers of all types to meet and experience what is upcoming and newly being introduced. The center operates in both direct/onsite and remote/online functionality.

The scope of the Demo Center, as with the Testing Center, is for:

- Medical products (see above for the details of our focus)
- Energy products for the home and business (see above for the details of our focus)

[7] The Learning Center - bringing the capability for people of all ages, genres, inclinations and inquisitiveness to come and learn - again, both onsite and online - about Creativity, Innovation, Integration, Synthesis, and Economy in Health and Energy, through programs that are designed by providers, practitioners, and consumers, with attention to all community members, especially youth.

The range of offerings includes:

- Briefings (generally 1-hour events, or one morning/afternoon in duration)
- Workshops (generally 1/2-day or full-day events)
- Classes (mixed types and durations)
- Symposia (for general audiences and professional specializations)
- Conferences (for general audiences and professional specializations)
- Games and Contests (designed for all, and really fun, and with prizes as well!)

Certain events are held directly onsite at the BEAT, and others that require larger facilities are held at other convenient nearby locations in and around Traverse City and the Northwest Michigan Region.

[8] The Gallery - bringing a unique opportunity for people of all interests, proclivities and inclinations to experience an ongoing interplay of Art, Science, Engineering, and Technology that is designed and cultivated by a diverse mix of creative professionals and citizens:

Themes include Nature, health, energy, and harmonious living

- Media include visual arts and a variety of crafts
- Works by professionals and hobbyists - true Unity in Diversity
- Special attention to works by artists with limitations in abilities and dexterities
- Special attention to the very young and the very aged and always to the very unique among us
- Special attention to arts and crafts that show the powers of healing and rejuvenation when the mind says, "I can and I will and I do"

This is our introduction of the TC BEAT for you. This is only the "tip of the iceberg".

You are cordially invited to contact us and learn more, and to become Involved in this wonderful new creation which is, after all, built and fashioned with love and care for You.

You may be interested in the clinical side, in the energy side, in the art and architecture, in the technology, and in all of what the BEAT is about. Come and find out more what it means for you and your community.

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