# White Paper

### Gabriel Technology Platform™

June 2013



#### Informational White Paper 1)

#### Gabriel Technology Platform™

The Gabriel Technology Platform™ is a proprietary dielectric technology, malleable for broad applications by engaging its surrounding electromagnetic field character as its activating source. The platform tools modify the structure and orientation of the fields, thereby stabilizing molecular energy transfer and increasing functional efficiency in a variety of environments.

Because the science underlying the technology is fundamental and acts at the molecular level, the platform is adaptable and customizable for use in a broad range of applications, including:

- O Environmental contamination management, improving potable water quality, increasing agricultural yield, enhancing technological device compatibility, and increasing communication system acuity, all through purposed manipulation of electromagnetic energy gradients;
- O Health risk management, restoration of metabolic balance, weight control, facilitation of therapeutic intervention efficacy, and promotion of increased physiologic efficiency, all through suppression of triggers that induce sympathetic stress cascades in biological systems;
- o Enhancement of human performance including increased cognition, mind-body synthesis and adaptive capacity, all through activation of triggers that induce parasympathetic nervous system function.

The diverse tools derivative of the Gabriel Technology Platform™ are designed to be customized to and integrated within existing technology infrastructure, devices and appurtenances. Quality control measurements are integral to the protocols used for deployment of the technology in every application so that appropriate adaptability is ensured and desired outcomes are maintained as the application environments evolve. The Gabriel-Tech GmbH company offers an array of their technology platform tools to strategic partners and customers through standard product-purchase contracts, customized service provision and private label licensing.

This Informational White Paper has been prepared by research staff at the non-profit Science and Public Policy Institute in Washington, D.C.. Data support has been provided by Gabriel-Tech GmbH and input has been gathered from a range of contractors and scientists who have done independent work with support from the Gabriel-Tech GmbH company. However, this paper is not a Gabriel-Tech work product and the content within should be considered an independent assessment.

#### Foundational Science Assessment

#### Gabriel Technology Platform™ Mechanism of Action

The Gabriel Technology Platform™ employs, in effect, a proprietary repeating dielectric 'layer' mechanism, activated by electromagnetic energy in the nearest vicinity and purposed to restructure fields and molecules as they pass through the near-field (i.e. vortex) of the specific, integrated Gabriel device.

The actions are propagated by a proprietary lattice configuration in the device that is derived from un-contaminated, pure mineral energy signatures. Within the effective 'layer', adaptable insulated energy configurations are constantly produced which facilitate restructuring of fields and molecules to their most efficient, stable congener form and axis orientation. <sup>2)</sup> The result is a chain reaction that moves outward and impacts the full range of electromagnetic fields in the immediate vicinity by unscrambling disturbances that disrupt flow and efficiency. <sup>3)</sup> <sup>4)</sup>

#### **Environmental Applications**

Several Gabriel Technology Platform™ tools have been adapted to environmental control. The basis for this application derives from the pervasive presence and dramatic impact of electromagnetic fields in the natural environment and the ability of the applied Gabriel Technology to restructure inefficient fields.

Any form of matter, inert or living, that produces energy imparts an impact on other matter through molecular energy transfer. In general, energy transfers are imprinted upon and then carried through the ambient electromagnetic zero-point field. The sum total of the full array of these energetic phenomena is an ongoing and growing clash amongst the ever more present and varied energy forms in the natural environment. The power of energetic occurrences ranging from hurricanes and tornados to global temperature change is amplified by interferences in ambient energy gradients which are determined by structural changes in molecules and resultant wave-form perturbations throughout nature.

- 2) The technology modifies the gradient in the vortex field and spin of molecules.
- 3) The principles encompassed within the Gabriel Technology Platform™ are fundamental and well documented in the physical and biological science, peer-reviewed literature. Key references are appended to this paper. The formularies and production methods are proprietary and continually validated within Gabriel-Tech GmbH laboratories as a component of ongoing quality assurance.
- <sup>4)</sup> Because the conformational changes induced by the technology move toward the most stable congener, there is no theoretical basis for the technology to pose a safety hazard since adverse electromagnetic field bio-effects are believed to be caused by incoherent signals or unstable congeners. There are no clinical study results or adverse event reports from use that suggest any health risk from the technology.

Thus, the dynamic and increasingly turbulent electromagnetic energy movements in the environment, although mostly invisible to the naked eye, continue to define and re-define the natural order as we know it.

Scientific advances over the past decade make it possible to qualitatively and quantitatively define both the energy exchanges and derivative signatures that are dispersed through the environment and their resultant impact on electromagnetic field character. These energy transfers, configured by the highly condensed energy that comprises all matter, are the engines that determine the spatial and temporal electromagnetic field configurations that are held in place by the atomic ether. Valence energy, Van der Waals forces, and isolated electrons are integral components of a precise electronic gas which provides a unique quantum signature that defines any and all configurations in the natural environment.

As the environment evolves and changes, the configurations of primal or original signatures change as well. When those altered original signatures and resultant forces from different matter in the environment are coherent, they are able to blend and work in concert with other matter. However, when those forces derivative of matter are incoherent, they work in opposition which is the nature of disruptive electromagnetic interference.<sup>5)</sup>

The science around energy signatures has burgeoned as it seeks to learn the quantum mechanics that define natural energy patterns well enough to either repeat them for targeted constructive application or alter them for reasons ranging from safety to resource conservation. Indeed energy-based signal capture technologies ranging from magnetic resonance imaging and sonograms to radio transmissions and mobile phone signaling have gained acceptance in mainstream science and technology.

The tools that derive from the Gabriel Technology Platform™ are advances that are progeny of the same science that underlies these existing energy signature capture technologies. While diagnostic imaging and other applications are aimed at defining, capturing and interpreting passive energetic phenomena, the Gabriel platform's practical mode of action is to actively unscramble electromagnetic interference, noise and disturbances which impair effectiveness and efficiency in the full range of areas where electromagnetic energy is used to specific purpose. Thus, the technology is a logical advancement that builds upon the same underlying science that defines diagnostic imaging but takes it to a higher level of function. Thus, the Gabriel Technology Platform™ is a creative innovation built upon the foundation of documented and validated physical science.

<sup>5)</sup> While structural waveform changes create the first-order impact, it is the resultant variable energy gradients that cause interference and disruption.

#### **Biological Applications**

Several Gabriel Technology Platform™ tools have been adapted to biological applications. The basis for these applications derives from the demonstrated impact of chaotic electromagnetic fields on physiologic function, including the control of molecular energy transfer at the subcellular, cellular and tissue function levels in biological systems.

In the areas of health risk management, restoration of metabolic balance including weight control, facilitation of therapeutic intervention efficacy, and promotion of increased physiologic efficiency, the mechanism of action is mitigation of sympathetic stress through pathways that include manipulation of both physiologic and cognitive triggers. In the areas of enhancement of human performance including increased cognition, mind-body synthesis and adaptive capacity, the mechanism of action is positive triggering of parasympathetic nervous system function through physiologic pathways.

The science underlying both sympathetic and parasympathetic triggering is the same. Biological and medical discoveries over the past ten years have elucidated the importance of epigenetic mechanisms in defining adaptive responses by organisms to their micro and macro environments. In humans, these adaptive responses define phenotypic expression through the triggering of the more than 300,000 switches which turn 'on' and 'off' the approximately 25,000 genes in the human genome. This emerging biology also includes strong evidence that environmentally triggered and electromagnetically induced changes in genetic expression can be heritable from generation to generation. <sup>6)</sup>

The switching mechanisms for genetic expression are energetically induced at the cell membrane and lead to alterations in protein synthesis that induce structural and functional changes in sub-cellular and cellular matter, including individual molecules and the cells themselves. As changes that cause effects at these fundamental physiologic levels occur, their impacts cascade throughout the organism via intercellular communication mechanisms, including bio-photon processing, that alter the structure and function of tissues, organs, organ systems, the organism as a whole, and the organism's surrounding bio-field. Thus, the state of wellness of the organism itself is directly impacted by millions of micro- and macro-environmental electromagnetic field influences occurring continuously throughout the lifespan of the organism. These are the influences that are impacted both directly and indirectly by the tools in the Gabriel Technology Platform™.

The specific molecular mechanisms that induce these epigenetic changes are energetic in nature as well. At the most fundamental level, structural and functional impact of biological, chemical, and biochemical reactions are determined by molecular energy transfer which in

<sup>6)</sup> Science shows that short term electromagnetic influence can induce both sympathetic stress and parasympathetic function. In addition, longterm patterns that impact the ratio of parasympathetic to sympathetic nervous system activity is epigenetically determined. The Gabriel Technology Platform™ operates in these areas.

turn is dependent upon structural and functional stability. The directed molecular energy transfer and resultant molecular structure modification can be healthful to the organism – such as the therapeutic impact of antibiotics against infection – or detrimental to the organism – such as the disease-inducing impact of ingesting contaminated water.

The determining factor in whether or not a molecular structure modification is healthful or detrimental to the organism is the rate at which innate compensatory mechanisms within the organism create constructive, healthful adaptation. If the rate of the damage done by the micro or macro environmental insult is greater than that of the compensatory mechanism, the result is a detrimental impact. If the rate of action of the compensatory mechanism is greater than the rate of damage done, then the result is a constructive adaptation.

Both compensatory biological mechanisms and detrimental impacts are the result of biological cascades that are triggered electromagnetically. A biological cascade is a series of biological, chemical and biochemical reactions that are dependent upon one another and occur in a defined sequence. Biological cascades are triggered by molecular structure modification which changes energetic input and output.

Stable and efficient molecular energy transfer holds the key to triggering constructive or destructive biological cascades. For example, the practices of allopathic, homeopathic and naturopathic medicines each seek on some level to eliminate destructive biological cascades and replace them with constructive biological cascades. Both pharmaceutical drugs and nutraceutical supplements seek to induce therapeutic and wellness enhancing cascades by producing biochemical environments that facilitate specific types of molecular energy transfer and resultant molecular structure modification. Acupuncture does the same through direct energy manipulation.

The molecular structure modifications that the Gabriel Technology Platform™ tools induce impact each of the biological mechanisms described above. Thus, the tools carry with them the opportunity for broad application in health care, risk management and performance enhancement.

#### Scientific References

Adair RK. Biological effects on the cellular level of electric field pulses. Health Physics 1991;61:395-9.

Adair RK. Constraints on biological effects of weak extremely-low-frequency electromagnetic fields. Phys Rev A 1991;43:1039-48.

Ahlbom A, Feychting M, Koskenvuo M, et al. Electromagnetic fields and childhood cancer. Lancet 1993;342:1295-6.

Alberts BD, Lewis J., Raff M, Roberts K., Watson JD. Molecular Biology of the Cell. N.Y., USA.: Garland Publishing, Inc.; 1994.

Albrecht U. Timing to perfection: the biology of central and peripheral circadian clocks. Neuron 2012;74:246-60.

Bassett CAL, Pawluk, RJ, Becker, RO. Effect of electric currents on bone in vivo. Nature 1964:204:652-4.

Borgens RB, Blight, AR, Murphy, DJ, Stewart, L. Transected Dorsal Column Axons Within the Guinea Pig Spinal Cord Regenerate in the Presence of an Applied Electric Field. Journal of Comparative Neurology 1986;250:168-80.

Borgens RB. Stimulation of neuronal regeneration and development by steady electrical fields. New York.: Raven Press; 1988.

Borgens RB, Blight AR, Murphy DJ. Axonal regeneration in spinal cord injury: a perspective and new technique. J Comp Neurol 1986;250:157-67.

Braud WG. Consciousness Interactions with Remote Biological Systems: Anomalous Intentionality Effects. Subtle Energies & Energy Medicine Journal 2.

Brighton CT, Black J, . Evaluation of the use of constant direct current in the treatment of non-union. New York: Plenum Press; 1979.

Brighton CT, McClusky, WP. Response of cultured bone cells to capacitively coupled electrical field: Inhibition of cAMP response to parathyroid hormone. J Orthop Res 1987;6:567-71.

Brighton CT, Townsend, PF. Increased c-AMP production after short-term capacitively coupled stimulation in bovine growth plate chondrocytes. J Orthop Res 1988;6:552-8.

Brighton CT, Jensen L., Pollack, SR, Tolin BS, Clark, CC. Proliferative and synthetic response of bovine growth plate chondrocytes to various capacitively coupled electrical fields. J Orthop Res 1989;7:759-65.

Brocklehurst B. Free radical mechanism for the effects of environmental electromagnetic fields on biological systems. International Journal of Radiation Biology 1996;69:3-24.

Carlo GL. Wireless Phones and Health: Scientific Progress. Boston MA. Kluwer Academic Publishers; 1998. Carlo GL, Jenrow RS. Scientific progress - a wireless phones and brain cancer: current state of the science. MedGenMed 2000;2:E40.

Carlo GL, Thibodeaux PG. Wireless Phones and Health: State of the Science. Boston MA: Kluwer Academic Publishers; 2001.

Chung DDL. Electromagnetic interference shielding effectiveness of carbon materials. Carbon 2001;39: 279–85.

Cleary SF, Liu LM, Graham R, Diegelmann RF. Modulation of tendon fibroplasia by exogenous electric currents. Bioelectromagnetics 1988;9:183-94.

Coghill RW, Steward J, Philips A. Extra low frequency electric and magnetic fields in the bedplace of children diagnosed with leukaemia: a case-control study. Eur J Cancer Prev 1996;5:153-8.

Colwell CS. Linking neural activity and molecular oscillations in the SCN. Nature reviews Neuroscience 2011;12:553-69.

Constantinou CE. Dynamics of female pelvic floor function using urodynamics, ultrasound and Magnetic Resonance Imaging (MRI). Eur J Obstet Gynecol Reprod Biol 2009;144 Suppl 1:S159-65.

Cos S, Blask DE, Lemus-Wilson A, Hill AB. Effects of melatonin on the cell cycle kinetics and "estrogen-rescue" of MCF-7 human breast cancer cells in culture. J Pineal Res 1991;10:36-42.

Dubrov AP. The Geomagnetic Field and Life -a Geomagnetobiology. New York: Plenum Press; 1978.

Feychting M, Ahlbom A. Magnetic fields and cancer in children residing near Swedish high-voltage power lines. Am J Epidemiol 1993;138:467-81.

Feychting M. Ahlbom A. Childhood leukemia and residential exposure to weak extremely low frequency magnetic fields. Environ Health Perspect 1995;suppl 2:59-a 62.

Feychting M, Ahlbom A. Magnetic fields, leukemia, and central nervous system tumors in Swedish adults residing near high-voltage power lines. Epidemiology 1994;5:501-9.

Forward RL. Extracting electrical energy from the vacuum by cohesion of charged foliated conductors Physical Review B 1984;30.

Frey AH. Electromagnetic field interactions with biological systems. Faseb J 1993;7:272-81.

Froy O. The circadian clock and metabolism. Clinical Science 2011;120:65-72.

Golder W. Magnetic resonance spectroscopy in clinical oncology. Onkologie 2004;27:304-9.

Goodman EM. Effects of Electro-a magnetic Fields on Molecules and Cells. International Rev Cytol 1995;158:279-338.

Gurevitz O, Fogel RI, Herner ME, et al. Patients with an ICD can safely resume work in industrial facilities following simple screening for electromagnetic interference. Pacing Clin Electrophysiol 2003;26:1675-8.

Hafner M, Koeppl H, Gonze D. Effect of network architecture on synchronization and entrainment properties of the circadian oscillations in the suprachiasmatic nucleus. PLoS Comput Biol 2012;8:e1002419.

Haisch BR, Puthoff, H. E. Physics of the zero-point field: implications for inertia, gravitation and mass. 1997;20:99-114.

Haisch BR, Puthoff, HE. Inertia as a zero-point-field Lorentz force Physical Review A 1994;49.

Hallberg O, Johansson O. Melanoma incidence and frequency modulation (FM) broadcasting. Archives of Environmental Health 2002;57:32-40.

Hardell L. Mobile phones, cordless phones and the risk for brain tumours. International Journal of Oncology 2009;35: 5-17.

Hardell L CM, Söderqvist F, Mild KH, Morgan LL. Long-term use of cellular phones and brain tumours: increased risk associated with use for > or =10 years. Occup Environ Med 2007; 64:626-32. Review.

Hardell L, Mild KH. Epidemiological evidence for an association between use of wireless phones and tumor diseases. Pathophysiology 2009; 16:113-22.

Huang L, Cormie P, Messerli MA, Robinson KR. The involvement of Ca2+ and integrins in directional responses of zebrafish keratocytes to electric fields. J Cell Physiol 2009;219:162-72.

Jaffe LF. Control of development by ionic currents. Soc Gen Physiol Ser 1979;33:199-a 231.

Johansson O. Disturbance of the immune system by electromagnetic fields-A potentially underlying cause for cellular damage and tissue repair reduction which could lead to disease and impairment. Pathophysiology: the official journal of the International Society for Pathophysiology / ISP 2009;16:157-77.

Kalsbeek A, Scheer FA, Perreau-Lenz S, et al. Circadian disruption and SCN control of energy metabolism. FEBS letters 2011;585:1412-26.

Kawasaki A, Kardon, RH. Intrinsically photosensitive retinal ganglion cells. Journal of neuro-ophthalmology: the official journal of the North American Neuro-a Ophthalmology Society 2007;27:195-204.

Khurana VG, Teo C, Kundi M, Hardell L, Carlberg M. Cell phones and brain tumors: a review including the long-term epidemiologic data. Surgical Neurology 2009;72:205-14; discussion 14-5.

Kim RJ, Wu E, Rafael A, et al. The use of contrast-enhanced magnetic resonance imaging to identify reversible myocardial dysfunction. N Engl J Med 2000;343:1445-a 53.

Lakatta EG, Maltsev VA, Vinogradova TM. A coupled SYS-TEM of intracellular Ca2+ clocks and surface membrane voltage clocks controls the timekeeping mechanism of the heart's pacemaker. Circ Res 2010;106:659-73.

Leuchtag R. Does the Na channel conduct ions through a water-filled pore or a condensed state pathway? Biophys J 1992;62:22-4.

Leuchtag R. Long-Range Interactions, Voltage Sensitivity, and Ion Conduction in S4 Segments of Excitable Channels. Biophys J 1994;66:217-24.

Li N, Huang Y, Du F, et al. Electromagnetic interference (EMI) shielding of single-a walled carbon nanotube epoxy composites. Nano Lett 2006;6:1141-5.

Liburdy RP, Sloma TR, Sokolic R, Yaswen P. ELF magnetic fields, breast cancer, and melatonin: 60 Hz fields block melatonin's oncostatic action on ER+ breast cancer cell proliferation. J Pineal Res 1993:14:89-97.

Lundkvist GB, Block GD. Role of neuronal membrane events in circadian rhythm generation. Methods in enzymology 2005;393;623-42.

Mazzoccoli G, Pazienza V, Vinciguerra M. Clock genes and clock-controlled genes in the regulation of metabolic rhythms. Chronobiol Int 2012;29:227-51.

McCaig CD. On the mechanism of oriented myoblast differentiation in an applied electric field. Biol Bull (Woods Hole, Mass), 1989; 176:140-4.

McCaig CZ, M. Physiological Electric Fields Modify Cell Behaviour. Bioessays 1997;19:819-26.

McCraty R, Atkinson M, Bradley RT. Electrophysiological evidence of intuition: part The surprising role of the heart. J Altern Complement Med 2004;10:133-43.

McCraty R, Atkinson M, Bradley RT. Electrophysiological evidence of intuition: Part A system-wide process? J Altern Complement Med 2004;10:325-36.

McKasson MJ, Huang L, Robinson KR. Chick embryonic Schwann cells migrate anodally in small electrical fields. Exp Neurol 2008;211:585-7.

McLeod KJ, Lee RC, Ehrlich HP. Frequency dependence of electric field modulation of fibroblast protein synthesis. Science 1987;236:1465-9.

Miller C. An overview of the potassium channel family. Genome Biology 2000;1.

Nishimura KY, Isseroff R, Nuccitelli R. Human keratinocytes migrate to the negative pole in direct current electrical fields comparable to those measured in mammalian wounds. J Cell Sci 1996;109:199–207.

Nuccitelli R. Ionic Currents in Morphogenesis. Experientia 1988;44:657-66.

Nuccitelli R. Endogenous Electric Fields During Development, Regeneration and Wound Healing. Greece; 2000.

Nuccitelli R. Endogenous electric fields in embryos during development, regeneration and wound healing. Radiat Prot Dosimetry 2003;106:375-83.

Ogawa S, Lee TM, Kay AR, Tank DW. Brain magnetic resonance imaging with contrast dependent on blood oxygenation. Proc Natl Acad Sci U S A 1990;87:9868-a 72.

Pall ML. Electromagnetic Fields Act via Activation of Voltagea-a-Gated Calcium Channels in Biology and Medicine. Journal of Cellular and Molecular Medicine. June 2013.

Panagopoulos D.J. MLH. Theoretical Considerations for the Biological Effects of Electromagnetic Fields. 2003:5-33.

Panagopoulos DJ. Mobile Telephony Radiation Effects on Living Organisms. New York: Nova Science Publishers; 2008.

Panagopoulos DJ. Analyzing the Health Impacts of Modern Telecommunications Microwaves. New York: Nova Science Publishers, Inc.; 2011.

Panagopoulos DJ, Johansson O, Carlo GL. Evaluation of specific absorption rate as a dosimetric quantity for electromagnetic fields bioeffects. PLoS One 2013;8:e62663.

Phillips JL, Singh NP, Lai H. Electromagnetic fields and DNA damage. Pathophysiology: the official journal of the International Society for Pathophysiology / ISP 2009;16:79-88.

Presman AS. on the Role of Electromagnetic Fields in Life Processes. Biofizika 1964;9:131-4.

Presman AS. Electromagnetic Fields and Life. New York: Plenum Press; 1977.

Ramdani MS, Boyer E, Alexandre BD, Whalen JJ; Hubing, Todd H; Coenen M; Wada O. The Electromagnetic Compatibility of Integrated Circuits—Past, Present, and Future. IEEE Transactions on Electromagnetic Compatibility 2009;51:78-100.

Reiter RR, Coto-Montes A, Boga JA. Tan, DX. Davis, JM. Konturek, PC., Konturek SB. The photoperiod, circadian regulation and chronodisruption: the requisite interplay between the suprachiasmatic nuclei and the pineal and gut melatonin. J Physiol Pharmacol 2011;62:269-74.

Savitz DA, Barnes F, John EM. and Tvrdik JG. Case-control study of childhood cancer and exposure to 60Hz magnetic fields. Am J Epidemiol 1988;128:21-38.

Schwartz W. Circadian rhythms: a tale of two nuclei. Curr Biol 2009;19:460-2.

Sijbers J. Quantification and Improvement of the Signal-to-Noise Ratio in a Magnetic Resonance Image Acquisition Procedure. Magn Reson Imaging 1996;14:1157-63.

Swanson J. Childhood cancer in relation to distance from high-voltage power lines in England and Wales: a case-control study. J Radiol Prot 2005;25:336-7.

Van der Togt R, Van Lieshout EJ, Hensbroek R, Beinat E, Binnekade JM, Bakker PJ. Electromagnetic interference from radio frequency identification inducing potentially hazardous incidents in critical care medical equipment. JAMA 2008;299:2884-90.

Wallin MK, Marve T, Hakansson PK. Modern wireless telecommunication technologies and their electromagnetic compatibility with life-supporting equipment. Anesth Analg 2005;101:1393-400.

Wang EZ. Regulation of tissue repair and regeneration by electric fields. Chin J Traumatol 2010;13:55-61.

Weaver D. The suprachiasmatic nucleus: A 25-year retrospective. J Biol Rhythms 1998;13:100–12.

Weisbrot D, Ye L, Blank M, Goodman R. . Effects of mobile phone radiation on reproduction and development in Drosophila melanogaster. J Cell Biochem 2003;89:48-55.

Weisenseel MH. Control of Differentiation and growth by Endogenous Electric Currents. Berlin.: Springer–Verlag; 1983.

Wertheimer N. Electrical Wiring Configurations and Childhood Cancer. Am J Epidemiol 1979;109.

Wiener N. New Chapters in Cybernetics. London: Eyre and Spottiswoode; 1963.

Yao L, McCaig, CD., Zhao M. Electrical signals polarize neuronal organelles, direct neuron migration, and orient cell division. Hippocampu 2009;19: 855-68.

Zuber M, Meary E, Meder JF, Mas JL. Magnetic resonance imaging and dynamic CT scan in cervical artery dissections. Stroke 1994;25:576-81.

#### Epilogue to the White Paper



When we started fifteen years ago at Gabriel to do research work on an exciting future subject no one of us could divine to some extent to where the way would lead. It is a general characteristic of science that from a theoretical model none consistently marketing products must originate. Hence, it was reputed for us pioneers to invest into an economic uncertain technology and – in a classical commercial sense – taking a non-calculable risk together with our partners. As a merchant I know the basis of transactions and how to work out business plans and to think in perspective. At Gabriel it was different: my heart had to speak from the very beginning and indeed I finally trusted more my gut than my commercial understandings. Together with inspiring and competent friends by my side I was finally prepared to engage into a precarious adventure.

Everybody who pursued the academic activities over the last twenty years might have noted the development of especially two fascinating sectors, the quantum mechanics and the cellular biology progress. On these two fields we also focused in our development of problem-solving approaches. Thereby we always took the path of quality and cooperated with competent partners. Together with them we succeeded in great achievements pooling our competences.

The development of our technique required a lot of endurance and time. From early on we recognized the potential that is inherent in our technology. However, we had also to realize that we were ahead of time with our technology and that science had to catch us up and to interpret our concepts in a reasonable way. We always realized that only the scientific acceptation of our technology can lay the foundation of success.

All of us in the Gabriel team are making continuous and untiringly efforts to receive this recognition. We always adapted our product development to the latest terms of the rapid technological development and consequently improved it.

Finally, in the summer of 2013 we all reap the rewards of this work. The white paper on hand validates our untiring work – a breakthrough that encourages all of us and makes us proud. This white paper served as a basis for the US patent application of the Gabriel technology. At this point I want to give my heartfelt thanks to all colleagues.

Gerd Lehmann

## Nothing is more powerful than an idea whose time has come.

Victor Hugo

