Nuptek Systems Ltd

The Company

Nuptek Systems Ltd. is an electronics, computer, and software engineering consulting company offering diversified expertise in product development and management consulting.

Established in 1981 as a Canadian federally incorporated company, Nuptek Systems Ltd holds a Certificate of Authorisation issued by the Association of Professional Engineers of Ontario (PEO).

Nuptek Systems Ltd. is an organisation with a number of associate professionals having proven experience in the various aspects of technology, such as development, management, transfer, and training.

While the expertise of the company is in electrical and computer engineering, both in hardware and software, Nuptek System Ltd has provided also turn-key solutions requiring knowledge of other fields of engineering. This has been achieved by operating in co-operation with other engineering companies.

Fields of expertise include:

- Electronics & Computer Engineering (Digital Electronics & Microprocessors)
- Software Engineering (C/C++, OOA/OOD using UML)
- Real-Time Embedded Systems
- Fuzzy Logic
- Algorithms Development & Simulation

Product Development

Within the traditional product development cycle Nuptek Systems Ltd. is qualified to provide the following services:

- feasibility studies (needs analysis, identification of problems, synthesis of solutions, screening of candidate solutions);
- cost/benefit analysis;
- marketing analysis;
- investigations on Canadian, US, European, and international standards and selection of suitable subsets, as required by specific situations;
- project planning & scheduling (PERT/CPM);
- preparation of project proposals;
- preparation of design specs;
- implementation of the design in compliance with the design spec;
- preparation of all documentation for printed circuit board (P.C.B.) layout;
- P.C.B. layout design by using C.A.D. systems (up to 9 layers);
- contracting-out and supervising P.C.B. manufacturing for small prototype quantities;
- testing of prototypes;
- recommending design improvements;
- preparing and examining final documentation (schematics, parts list, product spec);
- training qualified employees of the Client in troubleshooting and product support;
- certifications, if required (i.e: CSA, UL, SEMKO, etc.);
- support of the Client in dealing with OEMs and contractors (to write requirement & procurement specs, to select vendors and establish preliminary contacts with them, to help the Client in preparing OEM contracts, to prepare invitations to tender, to examine the available bids, to select the best suppliers and/or contractors and check their performance);
- proposing cost reductions and introduction of new technology;
- run small quantity productions, upon request.

Technology Management

While managers and businessmen find it easy to make decisions in traditional management (i.e. human resources, marketing, sales, manufacturing, etc.), they may become confused when very new technologies are involved.

Nuptek Systems Ltd. is prepared to assist the Client either by translating the technology and its implications into simple and traditional terms or by helping to manage it. This can be done in a number of ways, ranging from an ad-hoc management of the Client's human resources to` charting the course of the Client's action.

Technology Training

In today's competitive market, while design and production engineers are busy developing new products, they cannot keep themselves technologically up-to-date and their knowledge may become obsolete. Not being aware of the most recent technologies, these engineers may be unable to innovate and to compete. Their employers are in danger of losing their share of the market.

Nuptek Systems Ltd.'s professionals have a wide-ranging knowledge and hands-on experience of new technologies and can make this knowledge available to its Clients through application oriented courses.

Nuptek Systems Ltd.'s professionals have always practised what they teach, so that they can bridge the gap between theory and implementation.

Technology Transfer

Most of us do not make everything we need but prefer to buy items from the stores. Sometime, however there are some products that have to be custom made because what is readily available in the market is not satisfactory. While a private decision of this type is usually easy and of little consequence, a "make versus buy" decision maybe a difficult one for a company.

Nuptek Systems Ltd. can help when this dilemma arises. If the Client decides to acquire technology, Nuptek Systems Ltd. can help to locate the best sources, to evaluate them, and to transfer the technology in the most efficient and reliable way. If the Client wants to sell technology, Nuptek Systems Ltd. can help in making it marketable and in customising it, as it may be required.

Management Consulting

Any consultant with some years of experience has a definite advantage over a professional who is permanently linked to company: exposure to a large number of situations and technologies.

The same advantage exists for organisations. Consulting companies have a wider knowledge of situations and technologies than manufacturing companies.

This knowledge can be made available to new Clients, without divulging proprietary methods and secrets of former Clients.

Operating Practice

Nuptek Systems Ltd. is determined to maintain the highest professional standards in all activities.

Nuptek Systems Ltd. has the capability to conduct tasks of large size and complexity because of the high degree of management and technical expertise acquired by its professionals.

Nuptek Systems Ltd. will allocate the required amount of resources on an individual project basis. This approach provides for maximum flexibility and cost effectiveness.

Nuptek Systems Ltd. believes that each new Client has specific needs, thus a suitable methodology of intervention is designed for each new undertaking, the right specialists are chosen, all required resources are identified, procured, and carefully matched.

In today's competitive market a product may quickly become obsolete. Yesterday's winner may be today's loser. Timeliness is a top priority for Nuptek Systems Ltd.

Nuptek Systems Ltd. can help each Client to develop, manage, and acquire technology in the most cost effective way: Nuptek Systems Ltd. can provide top professionals who will be on the Client's budget only for the duration of their assignment and only while they perform.

Style of Operation

Nuptek's professional services are carried on:

- by identifying and using the right technology required by the task;
- without affecting the Client's current activities;
- with only the desired degree of involvement for the Client (only one liaison engineer
- and/or manager is the required contact);
- off Client's premises if desired;
- without taxing the Client's human resources;
- by using the best professionals and the most skilled labour available.

Nuptek Systems Ltd. will conduct the work through a formal contract consisting of two main section:

- a "statement of work", providing all details (description of the work to be done,
- description of deliverables, definition of acceptance criteria, and other items as the Client
- may require and it may be mutually agreed upon);
- an "administrative section" detailing project milestone breakdowns, schedules, fees, billing, and contingencies.

Clients

Clients of Nuptek Systems Ltd include:

- Addison-Wesley Publishing Company (Massachusset)
- Berminghammer Corporation Limited (Hamilton, Ontario)
- Brown Manufacturing Limited
- Codessa Computer Corporation
- CTcell Limited
- DATA-FARE (ERG ELECTRONICS LIMITED)
- D.E.M. Controls Limited (Montreal, Quebec)
- Dalhart Development Corporation
- Delphax Systems Inc.
- E. Nikkanen Industries
- FP Electronics (a Mark IV Industries Company)
- GFM Audio Digital Inc.
- GSA Consulting Group Inc
- Imperial Oil Limited
- Liquid Transfer Systems Limited
- Markham Electronics
- Mark IV - IVHS
- M & E Electric Co.
- Metropolitan Toronto Traffic Control Centre
- MGV Computer Consulting Inc.
- Nelma Data Corporation
- Netwell Communications Inc.
- Pentotech Ltd.
- Pinpoint Retail Systems Inc. (subsidiary of Imperial Oil Limited)
- Phako Systems Inc. (subsidiary of 3M Canada Inc.)
- R. Laborie Surgical Ltd (Montreal, Quebec)
- Sharpe Manufacturing (Windsor, Ontario)
- Syntronics (Ontario 542435 Limited) (and Syntronic's associates & clients)
- The BARANTI Group Inc.
- The Board of Governors of Exhibition Place
- Thyristor Devices Limited
- University of Toronto Faculty of Applied Science and Engineering
- York Condominium Corporation No. 42
- Woodbridge Foam Corporation

Past Projects

The activities of Nuptek Systems Ltd. since 1982 include:

- development of a personal computer and personal computer options;
- development work on a music synthetizer and cost reductions of the same;
- development work on a digital video post-processing unit for recording studios;
- development of medical equipment;
- design, development, installation, and maintenance of the real-time display system for
- the Traffic Control Centre of Metro Toronto;
- development work on computerized, networked, cash registers;
- design and development of subsystems for IVHS applications;
- design and development of software to poll ticket vending-machines, transfer revenue
- information to GO TRANSIT Head Office, and perform all required processing to make
- the revenue information suitable for standard accounting and management packages;
- redesign of the Canadian National Exhibition local area network, using fibre optics
- technology, management of the tender process, and supervision of the contractors
- performing the installation;
- development of embedded real-time software for ticket-vending hand-held terminals for
- Egyptian National Railways and data communications software to transfer related
- revenue information;
- selection of communication protocols to allow secure communication and exchange of
- data between different, private, networks;
- development of a PC-Shell to be used by operators of Tag Programming Equipment for
- IVHS applications;
- design, construction, and test, hardware & software of automated test equipment for
- IVHS transponders;
- design, construction, and test, packaging, hardware & software of Electronic
- Authenthication Key for financial transactions over the Internet;
- Design of a fuzzy logic design shell.

Nuptek Systems Ltd. has carried on a large number of smaller assignments in the various aspects of technology, such as development, management, transfer, and training.