

AICN Newsletter

The Quarterly Publication of the Alliance of IEEE Consultants Networks

1st QUARTER 2016

AICNCC Looking to Partner with a Local Network

Since 2013, the Alliance of IEEE Consultants' Networks Coordinating Committee (AICNCC) has resumed the partnering with local consultants networks throughout the United States to hold full-day consultants workshops. The AICNCC has been going to local networks (typically on a Saturday) to conduct full-day workshops, covering everything from getting started in consulting to becoming an entrepreneur. The AICNCC also asks the local network to provide a speaker or two, so the workshop will have a "local feel."

The purposes of the workshops have ranged from helping struggling networks, to reinvigorating network interest, to providing program diversity for a network annual meeting. In the past three years, the committee has partnered with local networks in Florida, Michigan,

California, Texas, Minnesota and Illinois. These local network partnerships fall in line with the AICNCC objectives, which includes fostering U.S. Consultants Networks growth; encouraging consultants to join existing networks or form new ones; promoting the use of independent technical and engineering consultants by industry and business; and providing educational activities for self-employed IEEE members.

If you are a local Consultants Network Chair, and may have an interest in partnering with AICNCC to conduct a workshop, contact Daryll Griffin at d.r.griffin@ieee.org. If you're a local network member, contact your Network Chair, and let him or her know you would be interested in attending this type of workshop.



Participate in the 2016 IEEE-USA Consultant Fee Survey

Since 1972, IEEE-USA has conducted compensation surveys of IEEE's U.S. members. It implemented a separate survey focusing on consultants' compensation in 2002, and, with the exception of 2003, this survey has been conducted annually ever since.

In 2015, IEEE-USA had 1,072 respondents participate in the survey with response rate of 10.2%. The 2015 report represented only those who were identified as self-employed consultants; defined as the 632 individuals who indicated that 50% or more of their consulting hours came from working independently, with partners, or incorporated.



IEEE-USA wants to increase participation from last year's survey. So, if you meet the IEEE-USA consultant criteria, we ask you to participate in the survey. The survey will be sent out to select U.S. IEEE members during the month of May, and will remain open for about three weeks. If the month of May is coming to a close and you've yet to receive a survey invitation, feel free to contact Daryll Griffin (d.r.griffin@ieee.org).

If you would still like to purchase the 2015 IEEE-USA Consultants Fee Survey Report, it is available at: shop.ieeeusa.org/.

For questions, comments or submissions
please contact Daryll Griffin at +1 202 530 8337
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www.ieeeusa.org/business

IEEE★USA

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Start Your Own Local Consultants Network

With the growth of the [IEEE Consultants Networks](#), we now know that many IEEE members—inside and outside the United States—are interested in consulting. The following instructions are designed to help individuals or groups start a local IEEE Consultants Network:

Introduction

You are a consultant, or considering becoming a consultant of engineering services—in simpler terms, a private practitioner. You are an IEEE member, and you would like to be associated with other Consultants. Where do you go?

If there is a Consultants' Network (CN) in your area, join it. Find out if there is one by contacting or searching [IEEE-USA's local network listing](#). Active Consultants'

Networks are in thirty different areas of the United States, and others may be in the formative stages.

A local IEEE Consultants' Network is an invaluable resource for consulting information. You will meet experienced practitioners, as well as others new to consulting. Speakers discuss such topics as taxes, self-marketing, finances, fee setting, software and liability insurance. The network is also a source of potential clients.

If no Consultants' Network exists in your area, consider forming one. Organizing a network can be exciting and rewarding. Reference the following step-by-step instructions for tips on how to start a local Consultants' Network.

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Steps to Start a Consultants Network:

1. **Local Section/PACE Support**—Contact your local Section Chair and/or local PACE (the Professional Activities Council for Engineers, which reports to the United States Activities Board) Chair, or representative, and discuss your intent to form a Consultants' Network. All Section Chairs and PACE representatives have a copy of this procedure. To find out who these people are, refer to your local newsletter. If all else fails, contact IEEE Field Services at (800) 678-IEEE for the names of your Section leaders.

Make arrangements to attend a Section Executive Committee (EXCOM) meeting. At the EXCOM meeting, ask to be appointed Temporary CN Chair, with authority to determine whether your community has an interest in forming a network.

2. **Funding Availability**—Some funds are available for postage, printing, etc., to help get local Networks started. Your local Section PACE Chair, or your Region PACE Coordinator, can be contacted for this financial assistance.
3. **First Meeting Announcement**—With EXCOM's help, schedule an initial CN meeting. Announce the meeting in your Section newsletter. For the first meeting, try to get a good location, and offer light refreshments.

In addition to the newsletter announcement, make personal contacts, and ask EXCOM members to make personal contacts, as well. Do whatever is necessary to let local consultants and IEEE members know that a Consultants Network meeting will take place. Send announcements to local newspapers and magazines.

4. **First Meeting Agenda—At the first meeting:**
 - Determine interest
 - Get input from attendees as to their needs and expectations from a CN
 - Agree to meet on a regular basis
 - Get names and addresses of attendees

- Get volunteers for the following positions: Vice Chair, Secretary and Program Director

Be prepared to schedule the next and later meetings. A good strategy is to schedule all the subsequent meetings at the same location, and at some easily remembered time, such as the second Monday of every month, at 7:00pm. Announce the next meeting in your Section newsletter, and/or post your meeting on [IEEE vTools](#).

5. **Create a Website, with a Directory**—IEEE vTools provides instructions on creating an IEEE Section and group Website. A major activity of all CNs has been to create an online membership listing of the local network consultant's expertise. For samples of existing member listings, checkout the online [IEEE-USA's local network listings](#). On some of these Websites, you will see examples.
6. **Activities for Future Meetings**—Consider the following additional activities for future meetings. These activities both help get business, and also improve consulting skills:
 - Have members give five-minute talks on what they do, and how they get business. Allow time for questions and answers. This activity marks the beginning of internal networking.
 - Conduct an anonymous survey of consulting fees, and make the results available to the members.
7. **Type of Speakers for CN Meetings—Consider inviting the following types of speakers to your meetings:**

- Accountants
- Lawyers
- Marketing professionals
- Insurance experts
- Industry leaders
- University leaders
- IEEE leaders

It's easy to get speakers. Initially, locate speakers through your members. Your members have their own networks of lawyers, accountants, insurance

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experts, other consultants, university professors, city officials, and chamber of commerce members. Such people will usually be pleased to speak to a group of IEEE consultants.

8. **National Conferences/Workshops**—Consider working with the AICNCC to host a workshop. Contact AICNCC committee members or IEEE-USA staff for details.
9. **Making Liaisons with other Organizations**—Now that you are a formal organization, consider making liaisons with other organizations in your area. A relationship with a college or university could give you a platform for doing seminars. Offer to conduct seminars or workshops on technical subjects to these groups.
10. **Membership Fees**—Some local consultant networks charge a small fee to belong to the network. Others don't charge a fee. Some local networks charge to attend meetings if food is being provided, or waive the fee, and allow attendees who wish to skip the food portion of the meeting to do so. Please remember that you cannot charge dues. IEEE members already pay dues to belong to the IEEE.
11. **Code of Ethics**—As IEEE members, we are bound to the [IEEE Code of Ethics](#). As professional consultants, we should go a step further—and also

follow a more stringent code of ethics. A sample code of ethics for IEEE Consultants Networks is based on the National Society of Professional Engineers' Code of Ethics. The primary change is using the term "Consultants Network Member," rather than "Engineer"—as membership is not limited to degreed, or professional, engineers.

12. **Bylaws**—As time progresses, your CN will need a set of Bylaws; a full set of officers; and, possibly, committees. This formation and the bylaws will depend on your CN's size and activity.
13. **Keep the AICN Informed**—Keep the Alliance informed of your progress. The AICN Coordinating Committee is available for advice and consultation to help you form your Network.
14. **Affinity Group Status**—As soon as you have a nucleus of about eight members, apply for recognition as an [Affinity Group](#).

The Alliance of IEEE Consultants' Networks Coordinating Committee (AICNCC), a standing IEEE-USA committee, developed these procedures.

For additional information about IEEE-USA consultant services, contact Daryll Griffin at +1 202 530 8337; or by e-mail, at d.r.griffin@ieee.org.

Sign Up for the IEEE-USA Consultants Database at a Reduced Rate

For a limited time, independent consultants who are IEEE members can subscribe to the [IEEE Consultants Network Membership Premium](#) — which includes allowing members to place their profile in the IEEE-USA Consultants Database — for half the regular cost.

The IEEE-USA Consultants Database allows national companies to find consultants wherever they are. With an annual listing fee of only US\$99 (now half-priced at \$49.50), a single referral will pay for the listing. Along with your database listing, the Premium subscription includes a free subscription to the IEEE-USA Consultants Newsletter, a free IEEE-USA eBook on consulting and access to a free exclusive training webinar.

Subscribe today and take advantage of this half-price offer!





IEEE-USA and the American Red Cross to Provide Temporary Power During Natural Disasters

IEEE-USA and the American Red Cross, Eastern North Carolina Region, are partnering on the MOVE Community Outreach program to provide short-term communications and power solutions after natural disasters and infrastructure failures. Services will include cell phone charging, communication of real-time information, and Internet access for the public.

"When power is lost, people have a difficult time communicating with loved ones, and finding out about what relief services are available," IEEE-USA President Pete Eckstein said. "These temporary emergency relief provisions will help people stay connected, make sure they can access the help they need, and jumpstart the recovery process."

Through a specially constructed Mobile Outreach Vehicle (MOVE), volunteer IEEE engineers and technologists will travel to disaster zones to offer the know-how and technology to provide rechargeable power banks, real-time survivor information and Wi-Fi, until regular electricity and data services can be restored.

"IEEE volunteers are eager to provide disaster relief," said former IEEE Region 3 Director, and project

champion, Mary Ellen Randall. "We also hope to provide consolation and compassion."

The MOVE unit, which will derive some of its power from solar cells and batteries, will focus initially on the southeastern and south-central United States, areas prone to hurricanes and tornados.

"As the nation's lead volunteer disaster relief agency, we are delighted to be partnering with IEEE members on this major new initiative," said Barry Porter, regional chief executive officer of the American Red Cross in Raleigh, N.C. "Supporting the communication, power and information needs of a community after a major disaster is vital to providing a path to recovery."

When not deployed to a disaster zone, the truck will travel to places such as schools, libraries, fairs and sporting events to promote STEM (Science, Technology, Engineering and Math) education, and raise awareness about the social impact advanced technologies can have.

For more information, or to donate to, or volunteer for, this initiative: visit <http://ieeeusa.org/volunteers/outreach/>.

IEEE-USA Offers Free E-Books to Members in April and May

From 1 April through 15 May, U.S. IEEE members may download a free copy of *Engineers Working with Teachers: A Handbook for Bringing the Excitement of Engineering, Science, Technology, Invention and Creativity into the Classroom*, by author Harry T. Roman.

Teachers today must integrate their curricula, showing how the subjects relate. Roman writes that “This approach is a fundamental underpinning of what we know today as STEM—Science, Technology, Engineering and Math...an exact match with what engineers do all day on the job.”

Roman has spent years conducting seminars and lecturing teachers about demonstrating technology in the classrooms, hosting student design competitions, and helping teachers and students to be more excited and creative about the engineering approach to problem-solving.

Working with the schools has not only made Roman a good resource for teachers and students, it has also helped him with his interpersonal skills, sensitized him to the daily trials of the teaching community, and, he admits, “reinforced my conviction that engineers are in a key position to work with the schools [all engineers must articulate their technology, explaining both its merits and shortcomings, hence making us de-facto-teachers].”

Companies and professional societies have learned that they must reach the K-12 students and stimulate their interests in the engineering profession as a career choice, and how it provides the context for learning

how to solve real-world problems in today’s computer-intensive world.

Engineers Working with Teachers is a guide for how engineers can get their problem-solving message across to teachers and students.

From 1 April to 15 May, you can get your free e-book to download by going to <http://shop.ieeeusa.org/usashop/product/careers/74226>. Log in with your IEEE Web account, add the book to your cart, and use promo code APRFREE16 at checkout.

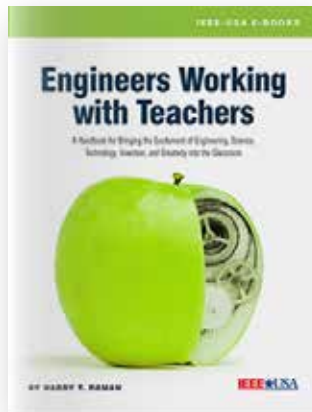
MAY FREE E-BOOK

From 1 May through 15 June, U.S. members can download a free copy of *Starting Your Start-Up— Book 5: The Launch*, by author Tanya Candia.

The Launch, presents a detailed roadmap to successfully launching your company and product. From setting realistic goals for the launch, determining the key messages, and preparing the sales team, to briefing the press and analysts, finding the right venue, and enlisting the help of early customers, this book takes you through all the necessary steps of a successful launch.

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Free Whitepaper on Understanding the Role of an Expert Witness

Download “[What to Expect When You’re an Expert](#)” to sharpen your understanding of how the rules on admissibility of expert testimony may affect your opinions and testimony that could jeopardize your

role as an expert. IEEE-USA is providing this link for informational purposes only, and does not vouch for the validity of the information provided.

CHAIR'S CORNER BY BILL GRIST

Back to Basics: Focusing on the Nuts & Bolts of Consulting

The Alliance of IEEE Consultants' Networks Coordinating Committee (AICNCC) knows that many readers of this newsletter are experienced consultants with a long history of working for themselves. However, there are also many IEEE members who are always looking for basic information about possibly becoming their own boss. So every now and then we like to run stories that give IEEE members basic information they should consider before of becoming an independent consultant. This newsletter contains two articles where consultants share their experience and advice about becoming an independent consultant.

Also, the AICNCC wants to thank the New York Section Consultants Network for partnering with us to hold a very successful half-day consultants workshop this past May. Over 25 consultants and would be consultants gathered to hear AICNCC members and



New York Section Consultant Network speakers talk with them about the many aspect of consulting from just starting out to entrepreneurship. If you're a leader of a consultants network or wanting to start a consultants network the AICNCC is willing to partner with your network or Section to hold a half-day or full-day consultants workshop. Contact Daryll Griffin at d.r.griffin@ieee.org for further information.

Lastly, later this summer the AICNCC will be publishing the 2016 IEEE-USA Consultants Fee Survey Report. If you did not participate in the survey (survey participants receive the report free of charge) be sure to [purchase](#) this report. It contains vital information for beginning and experienced consultants. ■

The Nuts and Bolts of Going from a Regular Job to Consulting

by Dennis Cahillane, Internet Blogger

(This blog post is targeted at people who are pretty serious about becoming a consultant while living abroad. For most people it will bore you to tears. In addition, although I am a lawyer, this post is NOT LEGAL OR TAX ADVICE. If you take one thing from this, hire an accountant in every country where you owe tax.)

For me, the last seven weeks have been a crash course in the legal aspects of being a consultant. I've probably

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The Nuts and Bolts of Launching a Career in Freelancing or Consulting

by Maureen Crawford Hentz

"I'm going to work for myself." For many people, the dream of independence can be turned into a reality. Freelancing and/or consulting is the most straightforward path toward working for a great boss — you. Because it is a tremendous commitment, however, it's important to think logically and take steps toward this career move seriously.

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spent 100+ hours researching this stuff so maybe I can save you some time.

In March, I was a happy employee of Soundcloud (company) in Berlin, Germany. Like most companies with employees, Soundcloud (my company) has an HR department that really takes care of you. (Although Soundcloud's (my company) is quite a bit better than some other companies out there.) Once you're a consultant, you just get money at random intervals, and suddenly you need to take care of a lot of stuff yourself. Here's a few things that I've learned. I hope they'll be helpful to at least one person out there making the leap. Please note, I won't be discussing the wisdom of the various laws and regulations I'm complying with, just how to stay safe and legal.

Taxes

First, a little bit about me, so you can see how closely your situation matches mine and how applicable my experience is for you. I'm a US citizen, which means I pay income tax on all worldwide income, no matter where I am in the world. (To see where your country stands on this issue, look it up on [this chart](#)). I'm not very interested in tax avoidance, although a lot of people you meet in the world of digital nomads and perpetual travelers are very aggressive with their taxes. For 15 months from January '14 until March '15, I lived in Berlin, which made me a something called a "tax

resident" of Germany, subjecting all of my worldwide income to German tax during that period. (Happily, Germany and the US have [a double-taxation treaty](#), which means that I don't have to pay tax to both countries, the tax I pay to Germany "counts" for the US. Warning: don't try to parse these treaties on your own, check with your accountant.) I'm now on the move, and don't intend to become a tax resident of any country in 2015. That means in 2015 I'll pay all of my taxes to the US, since it doesn't matter whether I live there or not, we Americans still have to pay.

If you aren't a US or Eritrean citizen, your income earned while living outside of your country of citizenship isn't taxed by your country. Therefore, in some situations you can live in a country without income tax, or never establish tax residency anywhere, and avoid income tax altogether. Check with your accountant. Hire an accountant!

When I started to look into paying taxes as a digital nomad, [I did an Ask HN](#). The advice I got was loud and clear—hire an accountant in every country where you might owe tax. I asked around and got good recommendations in both countries. [Germany: click here \(speaks English\)](#). [The US: click here](#). I've been happy with both, and in my situation for 2014 they actually needed to talk to each other, which worked out great, and

I'm thrilled that I'm 100% legal. They are responsive and both seem to know their stuff. The German fees are going to be €250-350, and the US \$250-350, depending on how complicated my taxes end up being and how many forms are involved. As someone who someday hopes to be an officer of a corporation, I am fastidious about avoiding any kind of blemish on my credit or tax history. In addition, hiring accountants frees up my time for activities that advance my career or just for leisure.

A quick side note for Americans: In 2014 I did both remote cross-border consulting work, and ordinary work for [Soundcloud](#) (my company). That's why my taxes are complicated. If all you did in a given tax year was work a regular job, then by all means use TurboTax for your US taxes. Do this whether or not you owe tax to the IRS, because all Americans living abroad must file a tax return every year. This is true even if you've never set foot in the US, e.g. if you were born to an American parent in Canada, you are a US citizen and were at birth, and you must file a tax return every year. Ignorance of the law is no excuse, and even not knowing that you're American is no excuse.

Americans: The biggest and most important difference for Americans receiving 1099 income instead of W2 income is that you need to pay your taxes four times a year. Yes, you don't wait until April 15th of

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the following year, you have to pay taxes every three months if you're self-employed. Ignorance of the law is no excuse, you will be fined if you pay late. [To read a bit about this click here](#). If you pay late you will be fined and charged interest. This year, I'm having my accountant take care of all of this for me. Eventually I might be able to handle it myself, but why bother and potentially make a mistake when I can pay someone a few \$100 and not worry? As a rule of thumb, you should set aside about 30% of your freelance income for taxes.

I also did some research about living in another country for an extended period of time while remote consulting for a US company. In general, if you live in a country for more than six months, or you move there with the intent to remain, then you become a tax resident, and are subject to tax in that country. However, even in high tax countries like Spain you should not rule this out immediately. In short, if you're making enough money, you should hire a lawyer to create a Spanish corporation for you, which will lower your top tax rate [from about 43%](#) to about 25-30%. So if you have a dream country, really dig into their law and possibly hire someone to advise you ahead of time. Some countries want remote freelancers, [check out this program for Portugal](#).

US State Taxes

[Most states don't try to tax you when you don't live in them](#). Some do. Check if your last state of residency is on the list.

Business Expenses

You can deduct business expenses from your income for tax purposes. You need to have receipts for everything in case you get audited. I made a Libreoffice spreadsheet with columns for Date, Expense and Amount. Then I save a pdf of each receipt in the same directory with the filename prepended by [date in format year month day]_expense_name.pdf. Send the total to your accountant.

Leaving Germany

If you're leaving Germany, get your Abmeldebestätigung as soon as possible before you leave. You need this document to cancel your contract with SuperFit and O2, and eventually to do your taxes and prove you left Germany. To get one, [download this form](#) and fill it out. ([Available from this site](#)). Then email the filled-out form to [this email address](#). You can do this a few weeks ahead of time and save yourself some time and money.

Also don't forget to be really sad because Berlin's a great place and it's sad to leave!

Form a Corporate Entity

Most American long-term consultants form a corporate entity in the US. This is either an LLC or a corporation that shields you from liability, gives you tax advantages, and makes it simpler for your clients to pay you. I haven't formed one of my own yet, and on my current gig I'm getting all the advantages of having one without having to do anything because of how the gig is structured. (Long story.) Eventually I'll probably form one.

I recommend you talk to your accountant about this, and hire a lawyer to form it properly. The only exception to the "hire a lawyer" rule is if you're forming an LLC with yourself as sole owner, which might be OK to do using some "auto-LLC" site. Still, if you make a mistake doing this you can sometimes end up making a very expensive mistake. For example, if you give your shares a par value of \$0.00 instead of \$0.0001 when you form a Delaware C-corporation, [your tax bill can be \\$180,000/yr. instead of \\$350](#).

Health Care

I bought a health care plan from [GeoBlue](#) (a company) for \$138/month. This is a plan that does not cover you when you are in the US, but does cover you in every other country in the world. To add the US to this coverage, the price more than doubles to over \$300/month. n.b. it is illegal for US citizens to

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The Nuts and Bolts of Going from a Regular Job to Consulting (Continued from page 3)

go without health insurance if you spend more than 29 days in the US in a calendar year. There is a floor on the amount of health coverage you are allowed to have under Obamacare, and Geoblue (the company I use) will happily sell you a plan that complies with that. My current plan is to upgrade my plan when I visit the US, and downgrade when I go abroad. Will update this blog on how that goes, but Geoblue (the company I use) has been responsive so far, and when I asked them about this they gave me a number to call to set it up.

This is a limited health care plan. It doesn't cover vision or dental. It does cover emergency and routine care in any country, and they have an app where I can find English-speaking, vetted doctors anywhere using geolocation. On their website when you sign up you can mix and match whatever coverage you want. Personally I don't need vision (yet!) and will just pay a dentist to clean my teeth at some point. The plan does cover flying me back to the US in extreme cases, including death! If you're in a third-world country and something really bad happens, they will fly you somewhere nearby like Singapore to get first-world care.

After you sign up you'll need to send them some info about your old health care plan, which I was able to do by emailing my previous health insurance provider and asking for it. It took some back and

forth, but I was covered the whole time.

In the end, buying health care on the open market was less complicated than I feared. You just do some searching, pick a company, and pay them once a month. If I'm ever a regular employee again, I'll be much better informed regarding health care and I'll pay more attention to what my plan covers.

Retirement

This is very US-specific advice.

I have a 401(k) from a previous employer just sitting there gaining value (it's invested in the "high-risk" stock market option since I'm only 32 years old.) Sadly self-employed people are not eligible for 401(k)'s, but we can invest in IRA's. I'm personally saving 5% of my income for retirement while I consult, and once I hit the minimum investment amount I'm going to invest in one of [these IRAs](#). Vanguard is a very well-respected company that got mentioned as good in the book *A Random Walk on Wall Street*, and their name came up several times when I asked around.

An advanced option is to move your 401(k) money into your IRA. I'm going to investigate that once I get this account set up.

Don't put off retirement savings! Due to compound interest, saving in your 30's is really huge. Seriously, Social Security won't be enough, and people are living to be 80+ on a

regular basis these days. Sock away a little money now and let it grow.

Finding Your First Client

First step: figure out what you're looking for. Figure out what you're great at. Then post on Facebook/Twitter that you're a digital nomad now, that you're looking for a certain kind of remote work (on-site not OK, remote only). All your friends know you're good, but post a few sentences that they can be cut & paste to people who might hire you to make it easier for them. Update your LinkedIn, no one will know about the cool stuff you did unless you write it out.

When I first tried to become a remote consultant, I sent out a ton of resumes. From the responses I got, I could tell that anyone who posts a remote job these days gets a lot of good resumes and has their pick of the litter. Sending out blind resumes was a dead end for me. The only good leads I got were from coder friends who weren't looking or had too much work and thought I was good enough to hand off their potential client to me.

Remember, if you drop the ball with a potential client, the worst that will happen is you don't get the engagement. There are other clients. Don't undercut yourself just because you "need" work. Cheap developers aren't valued. Also, in my experience American companies and startups pay the best. You don't need to be a US

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citizen to remote freelance for a US corporation, and doing so can increase your consulting rate.

Once things get rolling with your first client, let people know that you're a remote consultant. Then people will think of you when they need such a person. There are a lot of psychological issues to overcome with respect to charging thousands of dollars a week to do something fun like write ruby and javascript. For one, negotiating with potential clients isn't something a lot of coders want to do. Get over it! Your fun little hobby is worth a lot of money to the right company, and even if they're the wrong company, if their money's green, it's green. (Note to non-Americans: US currency is green.) If you really don't know where to start with negotiating, I enjoyed [this book](#) about negotiating your salary. The title is cheesy, but the book is good. The tips in there apply to consulting negotiations as well.

Budgeting

Plan on consulting [about 30 weeks a year](#). Figure out what your weekly rate will be. Multiply those numbers and you have your hoped-for

annual income. Congratulations, you just gave yourself 22 weeks a year to goof off. Eat your heart out European five weeks of minimum vacation time! (Let's not discuss the fact that consultants aren't eligible for unemployment.)

Increasing your weekly rate is a good and scary thing. I'm still figuring that out, but one idea I'm pursuing is declaring yourself an expert on some valued topic, and demonstrating your expertise through blog posts, conversations with other hackers, commits, talks at meetups, etc.

Student Loans

All of the loan companies I deal with are set up for one kind of person: a W2 employee with a regular paycheck. When I call them and explain what I'm doing the drone on the other end cannot compute what I'm saying. That goes double for my income-based repayment loans. Don't even get me started on getting your income-based income classified when you aren't paid in US dollars. All I can say about student loans is you gotta pay the beast, and when you need a break just call them up and ask them to

be flexible. Student loans have been the bane of my existence for 10 years and I don't anticipate that changing anytime soon.

Frequent Flyer Miles

This applies to everyone. For every flight you take from now on, sign up for the frequent flyer miles program for that airline. There are a few big miles collectives like Oneworld and Star Alliance, you'll be able to merge the miles. Even if you never get status on any one airline, just signing up for the program makes you more likely to be treated well. I've gotten two exit row seats for free by just signing up before my flight, even when I had zero miles accrued. Seriously, if you've been putting it off, look into FFMs.

Conclusion

Let me know if you have any questions about becoming a remote consultant! I'd be glad if all this writing helped even one person.

Source: [My Digital Nomad Blog](#), The nuts and bolts of going from a regular job to consulting, May 4, 2015. ■

The Nuts and Bolts of Launching a Career in Freelancing or Consulting (Continued from page 1)

The most important thing to consider is the purpose of freelancing/consulting. Are you looking to fill some free time? Do you want to earn extra money? Are you looking to work for yourself? Want to test the waters in a new career? These are all questions central to the issue of income expectation. Decide whether you will freelance/consult on the side, as a part-time position, or as a full-time move. It's wise not to quit your full-time position until you've been consulting on the side for a few years and have a good sense of the flow of your intended business.

You don't really want to quit your "real" job unless you:

1. have enough money set aside to support yourself (and others, if applicable) for a year, plus costs for starting up your business, such as a tax advisor, lawyer, copy machine, and office supplies.
2. are independently wealthy and/or have a spouse who can provide all of the above.

If you don't plan to quit your real job, you have more options for success benchmarks. When you have a steady source of income outside of your consulting/freelancing work, your timeline for finding clients can be longer, you can be choosy about clients and projects, and your financial needs are covered during the start-up periods and inevitable dry spots all new businesses face.

Things to Consider First

1. Think about the market *and* think out of the box. Sure, you are a great Web-page designer, but there are literally thousands of Web-page designers out there. Instead of designing Web pages, why not teach high school students about design? Assessing the market is extremely important. If your intended market is saturated with competition, it's important to be realistic about your ability to find and sustain a client base.
2. Think about non-compete agreements. Many companies ask you to sign an agreement saying, in many cases, that you will not compete with the

primary business of your employer. For a recruiter hoping to go freelance, for example, a non-compete agreement may mean that you signed away your rights to recruit in a particular city, with anyone currently on your employer's client list, or anyone within a certain physical distance to your employer. For other employees, such as a hair-stylist, a non-compete agreement may mean that you cannot take your clients with you when you leave. Carefully check your employment records as part of your pre-change strategy.

3. Check into no-moonlighting agreements. Although less common than non-compete agreements, some businesses ask you to agree not to work on your own after traditional work hours. Again, be sure to check if your employer has this policy. Some states allow businesses to prohibit moonlighting. Check with your state's Division of Labor if you have questions.
4. Carefully study tax and record keeping implications. Before you hang out your shingle, it's important to understand the tax ramifications of self-employment. As a self-employed taxpayer, you may have to file paperwork completely unfamiliar to you. For independent contractors, the equivalent of the W2 form issued to employees is a 1099, generally issued for fees paid to you in excess of \$600. See irs.gov for information about tax filing status and record keeping.
5. Call in the experts. IRS.gov has an on-line site for small businesses and self-employers. Most mid-to-large size cities have small-business associations and even start-up loans, grants and classes for new businesses. It may also be a worthwhile investment to speak to a tax advisor or financial planner. Finally, think carefully about your legal needs. Will you need a contract for each client? If so, a lawyer may be able to draft you a template to use with each new client. It's important to consider issues such as liability, cancellation policies, arbitration agreements, and payment terms.

Continued on **next page**

6. Do you need insurance? What costs are associated with insurance to cover you and your assets? Insurance needs vary depending upon the kind of business or activity you are conducting. It's important to carefully research this topic. Most folks starting on their own as freelancers rarely think about negative scenarios. Are you looking to become a masseuse? What if your client falls off the table or has an allergic reaction to the lotion you use?
7. Consider the licensure requirements. Thinking about starting a resume-writing service? Are most resume-writers in your area certified? Should you be in order to be competitive? What are the costs associated with certification?

Finding Clients and Customers

1. If permitted by your current employer, let your current contacts know you plan to go out on your own and/or are offering a la carte services apart from your current position. You can spread the word formally through such means as fliers and email, or informally through mentioning your availability to people as you speak to them.
2. Ask people to pass on your name to anyone who might be looking for your services. I recommend sending out an email, which is easily forwarded to others. Make sure you use your own/your business's email account; using an employer's email is unethical, and using a spouse's/friend's email is unprofessional.
3. Consider making simple but professional-looking fliers. Depending on your business, you can post these in high-traffic areas.
4. Join a professional association. If you're thinking about becoming a professional organizer, for example, it's important to find the Organizational Professionals group in your area. In addition to offering a place to exchange ideas and network, local professional groups often offer mailing lists and "recommended providers" among the members of their group to people who inquire.
5. Give away the milk for free. Many consultants and freelancers get their start at conferences or large meetings. Many performers, leadership consultants, and motivational speakers fall into freelancing/consulting because they speak at a conference, and then are approached after a workshop/lecture by impressed participants. Think of who your potential audience might be, and check into regional and local conferences and workshops of those folks in your area. If you are looking to consult on effective customer-service techniques, giving a workshop on this topic at a local small-business convention/workshop is a valuable use of your time.
6. Get a Website. Web sites are critical to the success of smaller consultancies/ freelancers. Put the word out that you are looking for a web designer. Negotiate price and think of creative ways of payment. Offer a link to designer's site or a banner indicating the designer and contact information. *This next step is important:* Query your favorite search engine for your topic such as "PR firms in Boston" or "Party Planners-New Jersey". Note what the search comes up with — and then see if you can link to or be listed on those sites.
7. Take out an ad in the smallest local newspaper in a target town or a small trade newspaper. Looking to provide personal chef services? Take out a small ad in the town paper of the wealthiest suburb within driving distance. Dream of freelance editing and proofreading? Want to tailor clothes or make alterations and repairs? Take out an ad in your local college paper, where you'll reach both students and faculty. Want to offer your expertise as a jury consultant? Advertise in your local Bar Association publication.
8. Attend "community days." Does your city sponsor community fairs? Bake sales? Rummage sales?

Continued on **next page**

The Nuts and Bolts of Launching a Career in Freelancing or Consulting (Continued from page 7)

Environmental-awareness days? First-time homebuyer fairs? These are all good places to rent a table (usually for a small fee of \$10-50) to give out fliers for your business. A house inspector new to the field, for example, can gather a huge list of names at a homebuyers' fair.

Ideas for a large-scale customer drive

1. Obtain a yellow pages ad. Advertising in the yellow pages is a sure way to reach people looking for your services.
2. Sponsor something. Many community groups and religious organizations look for advertisers for their bulletins, newsletters, or drama programs. Think about sponsoring a Little League team or pee-wee soccer team. Again, it's critical to target a specific audience. If you are looking to freelance as an at-home computer teacher, advertise to an audience that would be in the market for those services — folks in the 70+ age bracket perhaps? Offering birthday-party planning? Advertise in the second-grade class play program.
3. Cold call/mail. If you plan to go large scale, cold-calling and direct mail are the proven ways to get customers. Go through the phone book, and call companies you think could benefit from your services.

Freelancing and consulting are great ways to explore various career paths and revenue streams. Performing this kind of work on the side can be fulfilling, exciting and fun. Taking a chance to explore a new career, or explore the world of being your own boss is a great opportunity stretch yourself a bit.

The best part is that you work for the best company ever: You, Inc. Take a chance. Do a little consulting and freelancing. You might find a whole new career is waiting! ■



Maureen Crawford Hentz is manager of talent acquisition, development and compliance for OSRAM SYLVANIA Inc., a Siemens company. She is a nationally recognized expert on social networking and new media recruiting. With more than 15 years of experience in the recruiting, consulting and employment areas, her interests include college student recruiting, disabilities in the workplace, business etiquette, and GLBT issues. Crawford Hentz has been quoted by The New York Times, NewsDay, The Boston Globe, and National Public Radio, among others. In addition to her work for QuintZine, she is a contributor to the Boston.com HR blog. She conducts workshops, keynotes and conference sessions nationally. Crawford Hentz holds a master of arts degree in college student personnel from Bowling Green State University, Bowling Green, OH, and a bachelor of arts degree in international studies from The American University, Washington, DC. She lives outside Boston, Mass.

Sharing is Caring

IEEE-USA staff does numerous internet searches to find interesting stories to include in AICN Quarterly Newsletter. This past month IEEE-USA staff came across a web portal that lists numerous websites where consultants can search for consulting assignments. The websites are not dedicated to engineering consultants, but it may be worth a look, so check it out: <https://www.livecareer.com/quintessential/consultant-jobs>

Engineering Job Shops

Working at a "job shop" is one way full-time employees can transition into becoming an independent consultant. In late 2015, the Boston Globe ran a brief profile piece on an engineering job shop. Check out this quick overview of engineering job shop: <https://goo.gl/F3mttB>



3 Ways You Can Maximize Your Social Security Benefits

By Independent Financial Partners

The vast majority of working age adults understand that waiting to claim Social Security benefits usually results in a higher monthly benefit; however, one may be surprised by the fact that there are other ways to increase their monthly benefit claims, some of which depend on his or her marital status. The most optimal strategy for maximizing your Social Security benefit is really quite simple, wait until the age of 70 before taking your first payment from social security. Currently, waiting until the age of 70 years old to receive your claim could increase your monthly benefit by 32%, not including any cost of living increases that may be added to this amount.

In order to maximize your monthly benefit, one should be aware of the three basic forms of retirement benefits:

The Survivor benefit: This is the monetary value paid to the surviving spouse. This benefit is paid at a rate equal to the greater of his or her own current benefit, or the deceased spouse's current benefit.

The Worker Benefit: This is the amount that is based on one's earnings history, and for which the claimant will become eligible after 40 quarters of work.

The Spousal Benefit: Put simply, this is the amount paid to your spouse. In the instance that one's spouse does not have employment history, this benefit entitles the spouse an amount up to 50% of the working spouse's benefit, depending on what age the working spouse's claim was made.

How can you make the most of your Social Security benefits? By having the right, professional financial guidance and plan. myFinancial Wellness supports IEEE members' financial well-being by connecting members with their own personal financial advisor. Learn more by [registering for your complimentary financial plan](#) provided by a professional financial advisor.

For more information and an overview of myFinancial Wellness, you can [view this video](#), or visit IEEEFinancialwellness.com. ■



You Still Have Time To Renew Your IEEE-USA Consultants Database Subscription

[IEEE Consultants Network Membership Premium](#) (i.e. IEEE-USA Consultants Database) subscribers still have time to renew their subscriptions for this valuable asset. In 2016, you were able to have the exclusive privilege of participating in the webinar: Getting High Technology Business with the Federal Government on a Shoestring: A Case Study of Mountain Wave, Inc. In addition, in September you received a copy of the *2016 IEEE-USA Consultants Fee Survey Report*. And of course you had an annual subscription to the [IEEE-USA Consultants Database](#). Last but not least, you are now able to join in the Consultants Exchange in [IEEE Collobratec](#).

We believe all the services this subscription provides are well worth the \$99 subscription fee. The database itself lets IEEE members anywhere in the world create a profile listing detailing their fields of expertise, skills and availability. Employers can search the database for consultants that meet such criteria as expertise, location, certification type and spoken languages. Employers can also list their needs on the database, and have consultants contact them.

The Alliance of IEEE Consultants Networks Coordinating Committee (AICNCC), an IEEE-USA committee established to provide policy guidance on consultants'

matters, advises that the database should be included in every consultant's marketing strategy.

If you haven't done so already, please consider renewing your [IEEE Consultants Network Membership Premium](#) subscription today!

For those new to consulting, consider subscribing to the [IEEE Consultants Network Membership Premium](#). If you subscribe, you will receive all the features previously mentioned. Of course, the main feature of the subscription is being able to list your profile in the [IEEE-USA Consultants Database](#). The database is a central location, where consultants from across the country can place profiles containing their expertise and contact information, and where business employers can come to find independent electrotechnology consultants.

To join, go to the [Special Interest Groups section of the Memberships and Subscriptions Catalog](#), and select IEEE Consultants Network Membership Premium. This step will allow you to enroll in the database, as well as pay the \$99 subscription fee.

After you subscribe, you can use your IEEE Account username and password to login to the [IEEE-USA Consultants Database](#), and create your profile. Take

Continued on **page 2**

You Still Have Time To Renew Your IEEE-USA Consultants Database Subscription (Continued from page 1)

the time to make your profile stand out, by adding your specialties and keywords, so clients searching the database can find you.

Remember business clients/employers searching for electrotechnology consultants will easily be able to find the consultants they need in the database, due

to many unique search features. Having a profile in the IEEE-USA Consultants Database allows national companies to find consultants wherever they are; and with the annual subscription fee of only \$99, just one referral will pay for the subscription. ■



New 2016 IEEE-USA Consultants Fee Survey Report

The [2016 IEEE-USA Consultants Fee Survey Report](#) has just been released. The fee data provided in this report assist independent consultants in setting overall hourly rates; determine if education levels relates to higher fees charged; and evaluate how fee rates are being charged for different industry sectors. In addition, in this year's publication, we've added a section of "respondent comments," and a section with infographics to better illustrate the results. All findings in the 2016 survey report represent only those participants who were identified as self-employed consultants—defined as the 568 individuals who indicated that 50% (or more) of their consulting hours came from working independently, with partners, or incorporated. This report provides the profile of

typical, self-employed and independent technical consultants—including their education, experience, business practices, median earnings and hourly fees.

IEEE-USA has conducted surveys of the compensation of IEEE's U.S. members since 1972. Separate surveys focusing on the compensation of consultants were implemented in 1998, and with the exception for the years 1999-2001, 2003, 2005 and 2008, IEEE-USA has published this report. With the exception of 2009, all surveys have been stand-alone surveys (i.e., they were not a part of the overall *IEEE-USA Salary & Fringe Benefits Surveys*).

The report is available at: shop.ieeeusa.org. ■



Five Points Every Startup Pitch Must Make

SOURCE: [THE INSTITUTE](#), 8 APRIL 2016

How to appease investors who have just as much, if not more, to lose

The key to winning over a potential investor for your startup is thinking like one. If you're an entrepreneur raising capital, you only get one chance to capture the interest of an angel, or venture, investment group.

A large number of entrepreneurs compete for a finite pool of capital. Understanding the critical elements of a successful pitch will help you beat the competition. While most angel investors are eager to provide funding, they also need to be confident they are putting their money into a winning company. Some 70 percent of investors do not get their money back. Armed with this awareness, your presentation should answer these five fundamental questions

1. What makes your business special?

You must be able to quickly address what problem your venture is solving. You must convey no existing solutions are available; or, if there are, how your solution is better. Explain the unmet need for the service or product, and the value it will provide to consumers. And most importantly, demonstrate how customers will embrace your product or service with enthusiasm (meaning they will actually pay for it). Startups that have paying clients already have an advantage here.

2. How big is the market? How fast is it growing? And how much of it can your venture service?

Many people lose their credibility because they overstate the size of their market. For example, if you developed a new encryption tool that protects data, the size of the market is not the U.S. \$75 billion that companies spend for cybersecurity. Instead, the market size is the \$1 billion spent on encryption software--and likely less than that, depending on the product's niche application--such as the type of data it protects, and the market being addressed health care or finance, for example).

Even at under \$1 billion, the target is substantial; therefore, you have to demonstrate your understanding of the market's nuances. It is important to talk about how you will provide a service that is unavailable; or disrupt how things are currently being done.

3. How will you introduce the product or service and convince customers to purchase it?

You need to talk to investors as you would your customers. A compelling sales proposition will strengthen an investor's confidence that you understand customers' needs. Be prepared to talk about the length of the sales cycle--from potential customer to closing the deal--as well as the influencers and decision makers in your market. Almost all investors ask how social media will be used to create leads and influence customers to make purchases. Be prepared with a social media plan.

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Five Points Every Startup Pitch Must Make (Continued from page 3)

4. How will you protect your intellectual property?

Piggybacking on what makes your venture special; you must also explain why you have a technological advantage over competitors or future copycats, and how you will protect it. This explanation should be the more detailed part of your pitch.

Protecting your IP doesn't necessarily mean having a patent. For example, investors often view software patents with suspicion, because they can be difficult to defend against big companies' encroachment. But you must still have a thoughtful discussion on how you're protecting your innovation. If you don't have overt protection, and your competitive advantage is predicated on the fact that you're the first to market, then convey that. Talk about how your product or service launch will capture sufficient market share early on, placing your startup far ahead of potential competitors.

5. Is your team staffed to succeed?

The investor needs to believe you have a talented and experienced team that will fill critical roles. If you are lacking employees in one area (such as in marketing for example), explain that you are bringing in advisors to fill the gaps. And more often than not, startups have to pivot and change direction as they grow and receive customer feedback. Investors will be listening carefully to assess the team's ability to process that feedback, and its willingness to change course, as necessary.

After you've addressed these points, investors should be eager to learn how much capital you are requesting--

and in what form of investment, so read up on the many options.

The next question will be the process the entrepreneur used to determine the startup's valuation--before it has made money. It is okay to compare to similar startups. Finally, you will be asked to explain how you plan to use the capital, whether for market development or product enhancements, and what results the funding will generate.

The truth is, this part of the pitch is a litmus test of whether the return on investment will be in the positive or negative. From watching the TV show, *Shark Tank*, where entrepreneurs pitch their ideas to investors, you may think you need precise numbers--yet most investors are probing your economic model, rather than your math skills.

Remember: angel investors are business people first, and investors second. Their questions are an amalgam of their market knowledge and collective business experiences. You will eventually gain the skill and poise to reposition your pitches to answer their questions. If all goes well, the investors will be inviting you back for a deeper dive into the details of your venture with a larger audience.

IEEE Member Ralph Sheridan screens startup proposals for [Launchpad Venture Group](#), Boston's largest angel investment group. He focuses on early-stage technology startups in clean technology and information technology security.

**WANT TO
WRITE
AN ARTICLE
FOR IEEE-USA
INSIGHT?**

CALL FOR AUTHORS

IEEE-USA InSight is a free online newsletter featuring timely and informative articles, essays and opinion pieces on the career and public policy issues affecting the careers and lives of U.S. IEEE members, as well as the issues shaping the modern technology professional's workplace. Article submissions are welcome in four categories:

CAREERS, PUBLIC POLICY, @IEEEUSA and VIEWS

For more info, visit: INSIGHT.IEEEUSA.ORG





Health Insurance Benefit Launched for Members in India

IEEE members residing in India may now enroll in an IEEE-sponsored group medical insurance program. The new exclusive program will provide comprehensive healthcare benefits for members and their families, including members' dependent parents or in-laws. Members between the ages of 18 and 85 may apply for the coverage and can choose their coverage level from 200,000, 300,000, 500,000, 700,000, or 1 million rupees. Dependent children are covered up to the age of 25. The dependent parents or in-laws can be enrolled up to the age of 85. The program covers preexisting medical conditions and waives medical tests. To be eligible, applicants must be IEEE members, and have renewed their memberships at least once.

The IEEE-sponsored group health insurance program launched on 1 April. This program is similar to IEEE-sponsored insurance plans in Canada and the United States, where members cite the insurance program as an attractive benefit,

along with other IEEE member benefits.

Ramakrishna Kappagantu, IEEE Region 10 director, says, "As part of our volunteers' sustained and untiring efforts, I am happy that we have launched the medical insurance program for the members in India. Going forward, similar platforms can be introduced to other countries in Region 10."

Coverage for parents is expensive in the Indian health insurance market, and employer group insurance plans typically exclude parents, or require an expensive co-pay. Kappagantu saw that lack of medical insurance coverage as an opportunity to develop an IEEE group policy. He asked the IEEE India Office to find an insurance company that could address the need. "After thorough due diligence, we selected the National Insurance plan" from the eight companies that responded to the proposal request, he says. National Insurance offered the best premium for the group program.

"We wanted the features of the plan to mirror a top-notch employer

plan, but be cost-effective and attractive at the same time, to those members who are seeking insurance on their own."

Details

Ongoing IEEE membership is a must for eligibility to renew insurance coverage. In addition, members must be in good standing and residents of India, as reflected in their member profile at the time of application. Such rules prevent misuse of the plan, and help to ensure its success over the long run. Those with coverage can get hospital services across the country.

Plan Administrator

National Insurance appointed MediAssist to administer the plan. MediAssist is handling online enrollment, member queries about coverage, and claims settlement. IEEE will verify applicants' membership status and eligibility.

To find more information, including the terms of the conditions, or to enroll in the program, visit the IEEE [Member Discounts](#) Web page.

Social Media Outlets for Networking with Consultant Everywhere

IEEE has started a new “[Consultants Exchange](#)” community in [IEEE Collabratec](#). The Consultants Exchange community is dedicated to addressing the interests of independent IEEE consultants. All [IEEE Consultants Network](#) and [IEEE Consultants Network Membership Premium](#) subscribers are eligible to join the IEEE Collabratec Consultants Exchange community. Please note: Any IEEE member is eligible to join the IEEE Consultants Network. In the community, members can network with other consultants from anywhere; exchange ideas on any consulting topic; seek and get advice; and access news and information that we may not be able to publish in this quarterly newsletter. Currently, more than 3,000 IEEE members subscribe

to the IEEE Consultants Network. The goal for this IEEE Consultants Community is to have every IEEE Consultants Network subscriber become part of the IEEE Collabratec Consultants Exchange community, by the end of 2016. Once we accomplish that goal, IEEE consultants will have a thriving, international, networking outlet that would rival networking outlets on LinkedIn--or any other social media outlet. Sign up today!

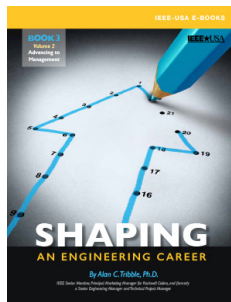


IEEE-USA's Free October eBook for Members Highlights Challenges, Lessons of Advancing to Management

Volume 2 of *Shaping an Engineering Career—Book 3: Advancing to Management* highlights some of the challenges of, and lessons learned from, advancing to a management level position in an engineering oriented company.

In Vol. 2, author Alan C. Tribble explains the different types of management jobs, (e.g., engineering management, program management, business development management, etc.) that are typical career-growth opportunities for engineers. He offers advice on how to work within an organization, as well as specific recommendations for technical personnel preparing to transition to management.

Tribble also examines his own personal motivation for wanting to progress from one position to another, the people and factors that influenced his career choices, and gives advice on how to work within an organization.

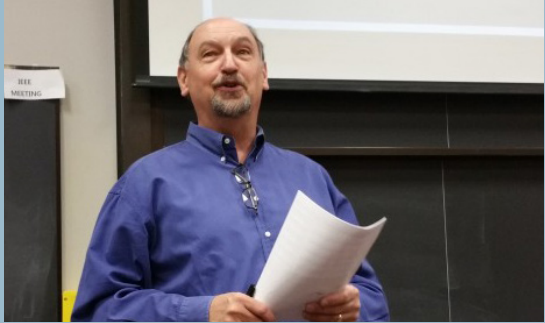


Through 15 November, IEEE members can get a free download of Tribble's *Shaping an Engineering Career—Book 3/ Vol. 2: Advancing to Management* by going to: <http://shop.ieeeusa.org/usashop/product/careers/76022>. Log in with your IEEE account, add the book to your cart and use promo code **OCTFREE16** at checkout.

AICN Newsletter

The Quarterly Publication of the Alliance of IEEE Consultants Networks

4th QUARTER 2016



AICNCC Chair's Message

Bill Grist's Two-Year Term as AICNCC Chair Comes to an End

As my term as Chair of the Alliance of IEEE Consultants Networks Coordinating Committee (AICNCC) comes to an end, I just wanted say thank you and provide a brief reflection on these past two years. My thank you(s) go out to the IEEE-USA Board of Directors, my fellow AICNCC Committee members, and the local networks--for allowing me to serve you. I have continued the work set forth by my predecessor to lead the Committee to go out and meet consultants across the country. The Committee has accomplished this mission by partnering with local networks to hold one-day consultant workshops, in such places as New York City, Detroit and Minneapolis. In addition, AICN has helped start the "Consultants Exchange" in IEEE's Collabratec. Most recently, AICNCC held a joint meeting with the [Consultants Network of Silicon Valley](#), to learn from one another how to best serve IEEE independent consultants. It has been a pleasure serving as AICNCC Chair for the past two years. I plan to continue working on this committee, as it goes forward to continue serving IEEE independent consultants. ■

Renew Your IEEE Consultants Network Membership Premium Subscription Today!

For IEEE Consultants Network Membership Premium (i.e., IEEE-USA Consultants Database) subscribers you still have time to renew your subscriptions to this valuable asset. The main component of this subscription is being able to place your consultant profile in the [IEEE-USA Consultants Database](#). The profile provides you the opportunity for consultants to list their contact information, engineering expertise and keywords words, so potential clients can search and locate them. IEEE-USA does a lot to promote the value of this service to IEEE members; however, we also believe IEEE members should know its history--and some key statistics about this service.

The IEEE-USA Consultants Database evolved from what was the Directory of Electrotechnology & Information Technology Consultants. IEEE consultants had a profile listing their names, contact information and expertise in this very popular print directory. Member consultants have often relayed to IEEE-USA staff that members would carry this directory with them to initial client meeting, to show that they were a member of a larger society of independent consultants.

From that directory the IEEE-USA Alliance of IEEE Consultants Networks Coordinating Committee (AICNCC) moved to put this, successful product into an electronic format where clients could search for independent consultants via the web. To create an income stream, IEEE-USA charged IEEE members a minor fee to list their profile, in what we now call the IEEE-USA Consultants Database. IEEE-USA's annual charge is currently \$99.00 per subscriber.

IEEE-USA does a lot to market this product to IEEE members. Marketing to those that hire consultants does present a challenge. We've learned over time from our annual Consultants Fee Survey Report that about 58% of all consultant business comes from repeat clients. Another 24% of consultants get their clients through personal networking, or referrals from clients or friends. From this trend, we can see most clients look to people they know, as opposed to searching online, if they are in need of a consultant. IEEE-USA will always look for different ways to market this product, so subscribers can be exposed to clients in need of engineering consultants.

Continued on **page 2**

For questions, comments or submissions
please contact Darryl Griffin at +1 202 530 8337
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www.ieeeusa.org/business

IEEE★USA

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Renew Your IEEE Consultants Network Membership Premium Subscription Today! (Continued from page 1)

The good news is that clients are definitely looking at subscriber profiles. When we upgraded the database a few years ago, we created a method where subscribers can see how many times their profiles has been viewed. We provide monthly data on how many times a subscriber's profile came up in a broad consultant search, and how

many times their profile has been viewed. We believe it's a great feature of this service.

With these new details about the IEEE-USA Consultants Database, we hope consultants are more ready than ever to subscribe to, or renew their [IEEE Consultants Network Membership Premium](#). Subscribe today! ■



For Members Only: Free February eBook Offers *Tips for Staying Sharp Inside Your Company*

Staying Sharp—Vol. 1: Tips for Staying Sharp Inside Your Company, provides more than a dozen proven strategies engineers can easily put to work on the job. In this award-winning IEEE-USA eBook, veteran engineering professional and educator, Harry T. Roman, shares his thoughts about how engineers can enhance and hone their non-technical skills for career success.

Volume 1 is filled with tips about mentoring, starting project teams, working with schools and continuing education, among many other topics. In one section,

Roman encourages readers to “do their R&D...a process that converts uncertainty into risk,” for many companies. But he recommends getting involved with it, explaining that if you know the risk associated with a technological path, you can make educated investments for the future.

Now through 15 March, IEEE members can get a free download of this eBook by going to: <http://shop.ieeeusa.org/usashop/product/careers/125999>. Log in with your IEEE Web account, add the book to your cart and use promo code **FEBFREE17** at checkout. ■

IEEE vTools Training Webinar

For local IEEE Consultants Network officials interested in vTools training—in November 2016, IEEE held a “vTools Training Summit” webinar. If interested, officials can access the recorded webinar, and receive the training, using [this link](#). ■





War Stories #9: Can You Be an Expert Witness?

BY LARRY G. NELSON SR.

If you are a subject matter expert, you may want to look at doing expert witness work.

There are many opportunities for consultants to do expert witness work. The type of work most are familiar with involves working with legal professionals--as a subject matter expert. I have done this type of work; and in some cases, it can result in doing depositions--and even testimony, in court. Not all expert witness types of work involve testifying. In many cases, once you examine all the evidence, you can present a theory on what happened. Then, the lawyers go into settlement talks, often closing the case early.

Insurance Investigations

Insurance companies have sometimes retained me to examine damaged electronics--to determine repair strategies versus replacement. In some cases, equipment was old and no longer made. Such instances often resulted in evaluating alternatives. How can the problem be solved today, with currently available equipment, instead of repairing or replacing the custom-built equipment from 10 years ago.

In some cases, there were damage claims from equipment failures--and the insurance company needed to have an expert determine the root cause; then work with them to recover damages from the equipment manufacturer.

These types of cases can involve a wide variety of equipment needing a wide variety of expertise. I have taken on cases involving freezers, dehumidifiers, battery chargers, computers, fish-tank heaters, temperature controllers, coating machines, wheelchairs, church organs, and store displays--to name just a few. These cases can involve injuries, property damage, business losses, or a combination.

Some of these projects involve examining the damaged equipment, and providing a verbal or written report. These reports can result in a deposition, and sometimes result in litigation--resulting in working with lawyers and testifying in court.

Estimating Damages

In some instances, I have investigated equipment that was exposed to smoke or water in a fire. What can be repaired and what should be replaced? For older equipment, can it be replaced by current equipment? Or will that be more expensive than buying older equipment from surplus equipment dealers? I have even had some companies pile everything that was in the lab together--claiming it all needed to be replaced. In one case, they piled two cases of expensive thermal paper with everything else; but during my investigation, I found out they had discarded the thermal printer months earlier--when it failed--but never discarded the paper.

Continued on **next page**

Can You Be an Expert Witness? (Continued from page 3)

Determining suitability of a design or implementation

In some cases a design is not suitable for use. It may be designed without sufficient margins, or not properly using the components to insure proper function. In some cases, the design may simply be poor. Sometimes, the results are unsafe...and should never be used.

In other cases, the design is adequate but the implementation is bad. I have seen cases of poor workmanship in the assembly of electronics boards that will result in failure of a product over time. For example, a power supply was not as labeled or presented--and not safe for use in the intended application. In addition, the

workmanship was so poor, that I found solder balls on the circuit board large enough to short between the IC pins. If this short took place, it could result in a fire, or an explosion.

I have also seen instances where the testing process will not insure the product was built properly, or is even functional. This failure often occurs in consumer products, where the testing is done only on samples of a lot of the product. While such testing can be an acceptable process, it must be implemented properly to be effective. Your manufacturing process needs to be consistent and repeatable, for sample testing to make any sense. ■

Formation of the Malaysia Section Consultants Network Affinity Group

The Alliance of IEEE Consultants Networks Coordinating Committee (AICNCC) congratulates Ramakrishna Kappagantu, and the IEEE Malaysia Section Consultants Network Affinity Group, on forming their network. This newest Consultants Network became official on 1 November 2016. If fellow consultants would like to give a personal welcome to this new network, please check the IEEE-USA Web site for the contact information. If other IEEE members would like to form a consultants network, the



IEEE-USA Web site also contains step-by-step instructions about how to start a formal network. We encourage new consultants networks to register as Affinity Groups. After a group forms a network, it can take advantage of IEEE's branding and resources, and also qualify for funding through IEEE Section rebates. If you don't see your consultants network's contact information listed on our Web site, contact Daryll Griffin at d.r.griffin@ieee.org. ■

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