CASE STUDY:

MARKET NICHE

Electronic Components

POSITIONS NICHE

Systems Design Engineering

JOB TITLE

Manager of Development Engineering

CLIENT

TYCO Electronics
POSITION
Manager of Development Engineering

LOCATION
Carpinteria, CA

For more information contact:
Jane Parkin
Executive Search Consultant
Ropella
850-983-8243
parkin@ropella.com
Tyco Electronics (TE)

With a 50-plus year history of leadership, TE is a US$14.4 billion global provider of engineered electronic components for thousands of consumer and industrial products; network solutions and systems for telecommunications and energy markets; undersea telecommunication systems; and specialty products. TE designs, manufactures and markets products for customers in a broad array of industries including automotive; data communication systems and consumer electronics; telecommunications; aerospace, defense and marine; medical; alternative energy; and lighting. TE is an independent, publicly traded company whose common stock is listed on the New York Stock Exchange (NYSE) under the ticker symbol “TEL.”

TE manufactures nearly 500,000 precision-engineered products – all backed by approximately 75,000 committed employees with a singular commitment to bringing a performance advantage to every technology, product and service TE provides.

TE rich history is based on two great companies, each with impressive engineering prowess and heritage. AMP Incorporated, founded in 1941, developed a solderless method of attaching electrical terminals to wire which improved connection consistency and manufacturing efficiency. For over 60 years, AMP led the fast-paced connector industry and was the leading maker of terminals, connectors and related products – components found in virtually any finished electronic device from toasters to supercomputers. The company was quick to adopt a global strategy, first establishing operations in France in 1952 and Japan in 1956. By the late 1990’s, AMP’s global footprint extended to over 50 countries and annual sales exceeded US$5 billion.

More Information:
www.tycoelectronics.com
Raychem Corporation, established in 1957, had as its basis the then-new field of radiation chemistry technology (hence Raychem), which company founders combined with expertise in materials science to develop products such as aircraft wire and heat-shrinkable tubing. Raychem later applied these core technologies to introduce more products, including innovative circuit protection products that could automatically reset after circuit faults were cleared.

In 1999, AMP merged with Tyco International Ltd. Later that same year, Raychem was acquired. These two electronics industry leaders combined to form the basis of TE. Over the next two years, more strategic acquisitions broadened the company’s product portfolio to encompass electronics and electrical components, systems spanning over 20 distinct product categories. Today, the portfolio includes not only connectors, but also relays, fiber optics, circuit protection devices, and touchscreens – encompassing approximately half a million different part numbers. No other supplier matches the array of products and services that TE offers.

Keeping focused on the customer, TE now operates in approximately 50 countries, with manufacturing facilities in over 25 countries strategically located close to customers’ facilities. While there has been a shift of manufacturing operations to emerging regions such as China and Eastern Europe, the company’s strategy is to maintain a well-balanced operating presence in all three major regions of the world.
Products

On the battlefield, in the air and out at sea, failure is never an option. Rugged, reliable components from TE give your designers the flexibility they need and your engineers the results they demand.

When safety and dependability are critical, count on TE, with more than 60 years of experience, to deliver reliable performance. TE backs their products with electromagnetic and shielding analysis; high-speed circuitry; QA testing and agency approvals; and engineering expertise in metals, polymers and plating.

Choose from connectors, cable and fiber to complete assemblies, harnesses and network products - all specially designed for military, marine, aviation, space, and command and control applications.

Let TE reduce your costs, increase reliability and solve your toughest design problems. With 8000 engineers, 17 design centers, and plants in 25 countries, TE will help you push the performance envelope.

Connectors & Backshells

TE connectors, backshells, contacts and terminals help the aerospace and defense industries meet their MIL-Spec, QPL, space-qualified and COTS application challenges. TE offers an array of quality components for space, commercial aircraft, defense electronics and ground and marine systems.

TE's connectors are used throughout modern avionics equipment. From collision avoidance to in-flight entertainment and networking, today's systems demand increased data rates. TE has the configurations and hardware to meet those needs, wherever space is tight and reliability counts. TE is the recognized leader in connection solutions.

Interconnect Devices

Insulated electrical terminal products from TE provide reliable, repeatable, and rugged performance for the aerospace, defense and marine industries. TE's wide range of dependable, economical wire and cable termination products can solve your wire and cable interconnect requirements. SolderSleeve technology ensures high-quality electrical and mechanical performance time after time. Premeasured solder and flux create repeatable, reliable terminations, reducing rejects and field failures.
Relays, Contactors, Power Distribution Panels, Solenoids and Sensors

Designed for demanding, high-performance applications, TE relays and contactors meet stringent aerospace and defense specs in the most extreme environments. TE components can switch currents from dry circuits to more than 1000 amps, voltages up to 70kV and frequencies up to 6 GHz. TE’s custom-designed solenoids can produce a few ounces to 100 pounds of force. Other products such as power distribution panels, sensors and relays combine several functions in a single, convenient package.

Fiber Optics

TE offers a comprehensive family of rugged fiber optic products to meet your cost and performance needs in aerospace, defense and marine applications.

TE’s fiber products provide easy alignment and low sensitivity to thermal changes and contamination. Strong, precision connector housings mean durable connections, with low loss and repeatable performance.

TE’s fiber optic connectors and contacts are found in aerospace, avionics, military communications, marine applications, security systems, offshore exploration and other harsh environments which demand strength, durability and reliable performance with multiple coupling/de-couplings, blind mate situations and high vibration.

RF Products

As a leading manufacturer of RF products, TE produces a wide range of coaxial connectors for the aerospace, defense and marine industries. TE’s engineers understand the electromagnetic theories and unique applications of RF connectors, terminals and adapters in these challenging environments. From flexible and semi-rigid cable to complete assemblies, TE can help design the RF solution that meets your needs and produces consistent, reliable results in the air, on the battlefield or out at the sea. TE offers military-qualified BNC, TNC, SMA and micro-miniature connectors.
High Performance Wire & Cable
High-performing electronics demand high-performance wire and cable. Engineers from TE are leading the wire and cable industry in the development of polymer blending and radiation crosslinking technologies. TE has combined unique cable jacket materials with high-performance component wires and miniature coaxial cables. The result is a broad range of high-performance cable and wire products for every application. These products meet performance standards in the most demanding defense, marine and aerospace environments. TE’s wire and cable catalog offers a vast selection of wire, tubing and molded parts manufactured from a variety of materials.

Data Bus & Networking Products
TE helps your devices communicate. With TE’s full line of 1553b data bus and networking products, assemblies and components, TE can supply individual couplers or fully integrated assemblies that are pre-tested and ready for installation. Your designers have maximum flexibility with TE’s lightweight, high-performance 1553b data bus components, which are rated to 150° C.

TE’s value-added assemblies reduce costs and increase reliability by combining top quality products, such as connectors, circuit boards, switches, breakers, wire and harnesses. Assembled products include power distribution assemblies, backplanes and I/O panels, advanced optical modules, nano assemblies, RF modules, contactor and relay assemblies and complex harnesses.

Harnessing & Heat Shrink Harness Components
Protect your cables and equipment from corrosion and abuse with heat-shrink harness components and assemblies. TE’s heat-shrinkable molded parts provide dependable strain relief and mechanical and electrical protection for difficult environmental conditions in aerospace, defense and marine applications.

Heat shrink tubing and molded parts from TE offer superior abrasion and crush resistance, sealing and strain relief, and excellent performance at high and low temperatures. TE’s molded parts include boots, cable breakouts, transitions, caps and feedthroughs, available in a variety of configurations, and materials.
TE harness assemblies promotes the use of TE components in the power and signal distribution systems on aerospace, defense or marine platforms and sub-systems. TE’s goal is to deliver high quality wire harness assemblies, on time and at a competitive price.

Identification
TE provides end-to-end ID solutions such as Unique Identification (UID) solutions and cable identification, as well as a full range of printing and engraving systems. TE is an industry leader in industrial identification technologies for cables, wire and harness products. TE’s knowledge of material science and ID products can help you develop customized solutions for demanding environments, including defense, aerospace and marine applications.

ID products from TE include computer-printable, permanent identification sleeves; lightweight products for aerospace applications and materials that meet military specifications.

COTS Products
TE brings decades of design and problem-solving experience to your aerospace and defense application with an unparalleled selection of commercial off-the-shelf (COTS) products. The proven quality and heritage of TE’s component brands - AMP, Raychem, MICRODOT, CII, Hartman, Kilovac and many more - is matched only by TE’s ongoing commitment to invest in new MIL-spec and COTS component technologies to help you meet your next-generation systems performance and cost goals. COTS products from TE include connectors, splices, fiber optics and terminal products.

Corporate Culture
Tyco Electronics values Integrity, Accountability, Teamwork and Innovation. There is a strong commitment to an engaged workforce and implementation of TEOA (an operating philosophy of lean manufacturing that is launched throughout the organization). TE encourages sensible risk across all business units. Team work is one of their values and they are continually working to improve collaboration across business units and departments. Respect for each other is highly valued.
Management Information

Karl Kitts,
Director of Development Engineering

Karl Kitts began working in power distribution products (relay, contactors, power panel, etc.) for MIL-AERO markets in 1986, and has continued to this day. He worked at Hartman Electrical (now a TE company) from 1986-1994 as a Product Design Engineer, Senior Development Engineer, and Senior Project Engineer. Karl then left Hartman and moved to Eaton Aerospace Controls in 1994 where he soon became their Development Engineering Manager. He returned to TE in 2003 as Engineering Director for the relay products line in Aerospace, Defense & Marine. Karl has an Engineering undergraduate degree from Ohio University and an MBA from Auburn.

Karl’s management style is to expect results and believe in consistent methods for project execution. Generally, his approach is hands off for the daily activities of the remote engineering teams (such as Kilovac), but can become very direct if program goals or customer satisfaction seem to be lagging. He reviews status/issues on all projects on a biweekly basis with all engineering managers.

Karl is an avid golfer, who also enjoys boating in his spare time. He has two children, ages fourteen and eleven, who also do their part to keep him quite busy.
Manager of Development Engineering

Position Overview
Manages a Development Engineering function, which is responsible for conceiving original ideas for new products and developing them into practical and economical models. The function's activities also include determining specifications, performing engineering analysis, making preliminary sketches, and coordinating support operations such as design, fabrication of prototypes, and testing. Directs Development Engineering activities that interface with customers, vendors, marketing and sales personnel during pre-production stages of new products.

Key Responsibilities and Qualifications
Manages a Development Engineering function, directing the work of development engineers and technical support personnel. Directs the following:

- Conceiving original ideas for new products.
- Determining specifications for materials, performance, and construction and other data relative to the design of new products.
- Conducting concept and development design review meetings for the purpose of evaluating design requirements and developing production plans.
- Directs Development engineering activities that interface with customers, vendors marketing personnel, etc. to analyze and solve problems.
- Maintains current knowledge of relevant new technologies, materials, equipment, and competitive products; ensures subordinate engineers do likewise; and applies this knowledge to determine needs and opportunities.
- Prepares and manages budget for assigned product and personnel.
- Develops departmental organizational structure, employment requirements, and training needs.
- BSME, EE or Physics
- 8-10 yrs experience
Santa Barbara, CA

Santa Barbara is sometimes referred to as the American Riviera. Her beautiful beaches, majestic mountains and colorful culture make Santa Barbara a premier resort destination. World-class accommodations and dining await her many visitors.

Santa Barbara is a 2 hour drive north from Los Angeles or a short hop from any corner of the world via the Santa Barbara airport. Santa Barbara's harbor is home to the world famous Stearns Wharf; a great destination for the entire family. The zoological gardens are known as a great family day-trip.

From the City, you are just minutes away from the Santa Barbara wine country. The gorgeous Santa Ynez Valley, with its breath-taking vistas, is home to such notable attractions as Solvang and the Chumash Reservation.

Whether you enjoy hiking, fine-dining, water sports, lazing on the beach, culture, or a great night-life, Santa Barbara has something for you.

The City of Santa Barbara is proud to host numerous special events throughout the year for residents and tourists alike. Scenic parks and beaches serve as the backdrop for a variety of events ranging from community festivals to regional sporting events or walks and runs sponsored by non-profit organizations.

The abundance and beauty of Santa Barbara's city park system enhances the pleasure of both residents and visitors alike and contributes to the city's worldwide reputation as one of the most beautiful in the world. With 57 parks totaling nearly 1800 acres and an abundance of 35,000 public trees, the outdoor environment greatly enhances the quality of life in Santa Barbara.
Carpinteria, CA

Carpinteria is a small oceanside city located in the southeastern extremity of Santa Barbara County, California, only 10 miles east of Santa Barbara and northwest of Ventura. The population was 14,194 at the 2000 census.

The Spanish named the area “Carpinteria” because the Chumash tribe, which lived in the area, had a large seagoing canoe-building enterprise, or “carpentry shop” there; this was due to the availability of naturally-occurring surface tar which was used to seal the canoes. You can still see the tar oozing out of the tar pit at selected sites, such as Tar Pits Park on the campground beach of Carpinteria State Beach.

Carpinteria beach is known to have a gentle, sloping terrain and calm waves in selected sandy areas but also good surfing swells in other rocky areas. Seals and sea lions can be seen in the area December through May at the rookery in the nearby Carpinteria Bluffs, as well as an occasional gray whale. Tidepools contain starfish, sea anemones, crabs, snails, octopuses, and sea urchins. A marathon-length round trip north of the rookery to Stearns Wharf in Santa Barbara is possible, though passable only during low tide. A popular campground is located adjacent to the beach. There is bird watching at Carpinteria Salt Marsh Reserve.

The city has a weekly newspaper called The Coastal View. The city of Carpinteria is served by the Carpinteria Unified School District. It includes one high school, one middle (junior high) school, and four elementary schools, one of which is an alternative school (K-6). The district also has an alternative high school. Other schools includes: Cate School, a private preparatory school, and Pacifica Graduate Institute, home of the Joseph Campbell and Marija Gimbutas Library. This graduate school offers master's and PhD programs in depth psychology and mythology. Carpinteria High School's football team, the Warriors, defeated Moorpark High School in 51 consecutive games, a national high school record. Since 1987, the California Avocado Festival has been held in Carpinteria on the first weekend of October. The Santa Barbara Polo Club, one of the main equestrian polo fields in the country, is located in Carpinteria. The city is also home to Hollandia Produce, an organic produce company with 70 employees. The Carpinteria Amtrak Station is an Amtrak rail station stop located on Linden Avenue by the beach. It is served by Amtrak's Pacific Surfliner from San Luis Obispo to San Diego.
## Santa Barbara Links

**Area Links**  
City of Santa Barbara  
www.santabarbaraca.gov

**Activities & Entertainment**  
Santa Barbara Historical Museum  
www.santabarbararamuseum.com

Santa Barbara Zoo  
www.santabarbarazoo.org

**Shopping**  
Downtown Santa Barbara  
www.santabarbaradowntown.com/shopping

**Sports**  
Santa Barbara Foresters  
www.sbforesters.org

**News Publications**  
Santa Barbara News-Press  
www.newspress.com

**Education**  
Santa Barbara School Districts  
www.sbsd5k12.org

Santa Barbara City College  
www.sbcc.edu

**Real Estate**  
Santa Barbara Properties  
www.santabarbaraproperties.com

Santa Barbara Homes & Land  
www.santabarbarahomesandland.com

## Carpinteria Links

**Area Links**  
City of Carpinteria, CA  
www.carpinteria.ca.us

Carpinteria.com  
www.carpinteria.com

**Activities & Entertainment**  
Carpinteria Valley Museum of History  
www.carpinteriahistoricalmuseum.org

The Seal Rookery  
www.carpinteriacoast.com

Carpinteria State Beach  
www.parks.ca.gov

Tar Pits Park  
www.carpinteria.com/activities/parks/tar_pits

**News Publications**  
Coastal View News  
www.coastalviewnews.com

**Education**  
Cate School  
www.cate.org

Pacifica Graduate Institute  
www.pacificag.edu

Carpinteria Unified School District  
www.cusd.net

**Real Estate**  
Carpinteria Real Estate  
www.carpinteriarealestate.org

Distinctive Real Estate  
www.distinctiverealestateonline.com

Other nearby towns include Oxnard, Ventura, and Goleta
If you have open positions in your organization, give us a call and put our people and our process to work for you.

For more information contact:
Jane Parkin
Executive Search Consultant
Ropella
850-983-8243
parkin@ropella.com
Skill Survey for: Manager of Development Engineering

Please type your answers in blue.

Name: 

Date:

1. Outline University Degree(s) with date(s):
   (Please provide the Name, the Location and the Phone # of each Institution & YOUR BIRTHDATE – so we can conduct degree confirmation check.) Note: This date is required in degree confirmation checks and will only be used for that purpose. Your birth date will not be supplied to the client.

2. Describe your depth of technical knowledge specifically involving electromechanical devices for a variety of markets.

3. Describe your experience with product design, development and launch as it relates to electromechanical devices for aerospace industry.

4. Outline your experience directing development engineering activities that interface with customers, vendors, marketing personnel, etc. to analyze and solve problems.

5. Describe your success in project management roles.

6. Describe your knowledge and experience with LEAN manufacturing. Provide examples where you used LEAN to improve operating income and what was the percentage of improvement.

7. Describe your experience implementing stage-gate reviews to ensure a disciplined engineering process.

8. Describe your financial skills for evaluating project/business cases, department cost reports, capital budgets, etc.

9. Describe your managerial experience and the levels of individuals that you managed.

10. Outline your experience team building, evaluating and improving team performance through mentoring and coaching and improving bench strength as needed.

11. What are your circumstances regarding relocation to the Carpinteria, CA area? Are there any special issues we should be aware of?
12. Are you a US Citizen? If no, what is your Visa status and provide the type of Visa that you are currently working under and any restrictions/issues our client will have to deal with.

13. If asked one of the following questions during an interview, how would you answer?

Why are you considering this opportunity? (or)

What’s motivated you to consider a job change at this time?

References
Please provide three to six references. The first priority is customers, past bosses, then employees, then peers.

Example: Bob Smith, currently – VP of Engineering at ABC Electrical 412-123-4567, Email: bob.smith@abcelectric.com. Was Dir of Engineering, my direct boss, while I was Engineering Manager at ABC Electrical.

We will NOT contact any references until after completing the interview process and not without notifying you first.

1)

2)

3)
Our scorecard is a form you complete on every candidate you have now screened as a potential fit. If you can tell that some of the candidate’s are probably C level in a superficial overview in comparison to others you set those aside now and grade the rest. The scorecard will help you objectively weigh all the Must Haves and even the preferences in such a way that at the end of using the scorecard process you can be pretty sure who the A plus candidates are, who the A candidates are, and who the B candidates are. Then we focus on scheduling for the A’s.

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<td>B = MS in polymer science or Chem. E</td>
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<td>C = only BS in something other than above</td>
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<td>7. Exp. implementing stage-gate review to ensure</td>
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8. Financial skills for evaluating project/business cases, department cost reports, capital budgets, etc.
   A = Yes
   B = Somewhat
   C = No

9. Managerial exp—Standard question?
   A = Yes
   B = Somewhat
   C = No

10. Exp. team building, evaluating and improving team performance through mentoring/coaching and improving bench strength as needed
    A = Yes
    B = Somewhat
    C = No

11. Relocation to Carpinteria, CA area
    A = Yes, no issues and/or lives in the area
    B = Some issues but nothing major
    C = Will have major issues relocating

12. Compensation: 140K to 160K with bonus 20%
    A = 130K to 150K
    B = 100K to 120K or 165K to 175K
    C = below 100K or over 180K

12. Job Changes/Stability
    Total Number of Job changes:
    Total number of yrs working:
    Average number of yrs at each job:
    A=Avg. yrs = 5-10
    B=Avg. yrs = 3-5
    C=Avg. yrs >3

Grading Point System:
A’s = 4
B’s = 3
C’s = 2
Bonus Points = 1
Now add up the numerical value of each grade and then divide by the total number of grades

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