

North American Average Annual Corrosion Salaries Continue to Climb, European Salaries Show Slight Decrease

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The results of *Materials Performance* magazine's annual corrosion career and salary survey for 2014 show a rise in average annual salaries for corrosion professionals in the United States and Canada, with new highs reached for these two groups, while the average annual corrosion career salary for the European Union countries using the Euro (Europe) decreased. This year the survey was expanded to include NACE International members in the United Kingdom, which uses the pound sterling as its currency. Over the past decade, the average annual salary for corrosion professionals has increased by ~48% in the United States and ~55% in Canada. Similar data are not available for the average annual salary for Europe, which was added to the survey in 2011.

The average annual U.S. compensation including salary and bonuses is \$108,615, an increase of ~5.3% over the 2013 average annual salary of \$103,148 and larger than last year's increase of ~4.6%. The average annual Canadian taxable income this year is CAN\$120,480 (equivalent to U.S. \$110,027), a large increase (11.4%) over last year's average annual salary of CAN\$108,108 and significantly more than the ~0.69% increase experienced by Canadians in 2013. The average annual European salary decreased this year to €66,944 (equivalent to U.S. \$91,117), which is down by ~2.5% from last year's reported

average annual salary of €68,637 and a reverse of the 3.7% average salary increase reported for Europe in 2013. The average annual salary for survey participants in the United Kingdom is £78,690 (equivalent to U.S. \$131,806). At press time (June 4, 2014), the currency exchange rates were as follows: U.S. \$1 equaled CAN\$1.095, €0.7347, and £0.597. See Table 1 for a listing of average annual corrosion salaries for the past 10 years.

The 2014 survey results indicate that many corrosion professionals in all four survey groups earn above average incomes as compared to the mean annual wage of \$80,100 for architecture and engineering occupations reported for May 2013 by the U.S. Bureau of Labor and Statistics.¹

More than two-thirds (~68%) of U.S. respondents earn an annual salary of \$80,000 or more—with ~56% earning \$90,000 or more, ~46% earning \$100,000 or more, ~18% earning \$150,000 or more, and ~6% earning over \$200,000 annually. More than three-fourths (~76%) of Canadian respondents reported earning an annual salary of CAN\$80,000 or more, ~67% earn CAN\$90,000 or more, ~59% earn CAN\$100,000 or more, ~25% earn CAN\$150,000 or more, and ~8% earn over CAN\$200,000 annually. Of the participants in the Europe survey, ~56% earn an annual salary of €50,000 or more, ~42% earn €60,000 or more, ~32% earn €70,000 or more, ~29%

earn €80,000 or more, and ~22% earn over €90,000 per year. In the United Kingdom, ~64% of respondents report earning £50,000 or more, ~56% report earning £60,000 or more, ~49% report earning £70,000 or more, ~37% report earning £80,000 or more, and ~29% report earning £90,000 or more (Figures 1 through 4).

A Variety of Jobs in Many Industries

From engineers and chemists to technicians and inspectors, NACE members perform a variety of jobs in many industries—including aerospace, oil and gas, mining, power plants and utilities, testing, and water distribution and treatment. In the United States, the types of jobs selected by the largest percentages of respondents are again similar to survey findings from the past several years. They are technicians/technologists (~21%), engineers (~18%), and quality control/quality assurance (QC/QA) inspectors (~17%). The positions with the highest U.S. average annual salaries—engineers (\$133,924), consultants (\$132,689), and management (\$124,024)—are similar to those reported in 2013, with earning increases over last year of ~14%, ~6%, and ~3% respectively. The largest percentages of Canadian respondents classified their job function as technicians/technologists (~21%), engineers (~21%), and QC/QA

CAREER SURVEY RESULTS FOR 2014

TABLE 1: History of Average Annual Corrosion Salaries^(A)

Year	United States (U.S.\$)	Canada (CAN\$)	Europe (Euro)	United Kingdom (GBP)
2014	\$108,615	\$120,480	€66,944	£78,690
2013	\$103,148	\$108,108	€68,637	N/A
2012	\$98,384	\$107,364	€66,098	N/A
2011	\$95,802	\$104,917	€67,281	N/A
2010	\$95,036	\$103,317	N/A	N/A
2009	\$90,902	\$96,757	N/A	N/A
2008	\$88,354	\$94,357	N/A	N/A
2007	\$87,792	\$92,594	N/A	N/A
2005	\$84,421	\$76,580	N/A	N/A
2004	\$73,181	\$77,773	N/A	N/A

Source: NACE International Annual Corrosion Career Surveys

^(A)Salary plus bonus.

N/A: Information not available.

inspectors (~18%), which are also comparable to previous years' survey results. The highest Canadian average annual salaries are CAN\$151,364 for management, CAN\$133,704 for QC/QA inspectors, and CAN\$126,250 for consultants, with each earning increases over last year of ~8%, ~14%, and ~0.5% respectively.

For Europe participants, the jobs held by the largest percentages of respondents are engineers (~33%) and QC/QA inspectors (~26%) and the highest average annual salaries are reported for professors/teachers (€145,000), management (€108,333), and sales/marketing (€80,000). Earning increases over the past year are reported for professors/teachers (~32%) and management (~75%). No Europe survey respondents selected sales/marketing in the 2013 survey.

The jobs held by the largest percentages of respondents in the United Kingdom are engineers (~33%), consultants (~24%), and QC/QA inspectors (~16%). The highest average annual salaries are reported for management (£97,273), consultants (£87,500), and QC/QA inspectors (£84,231). Table 2 lists principal job types and corresponding average annual salaries.

Oil and gas is a dominant industry for corrosion professionals in the United States, Canada, and the United Kingdom. Respondents selecting oil and gas

pipelines/storage tanks as their company's primary industry included ~26% in the United States and ~21% in Canada, while ~25% of U.K. respondents selected oil and gas extraction as their company's primary industry. Many respondents are employed in the coatings and linings industry, including ~21% in the United Kingdom, ~15% in Europe, ~14% in the United States, and ~12% in Canada. European respondents also selected refining (10%) and engineering/architecture consulting (10%) as their primary industry.

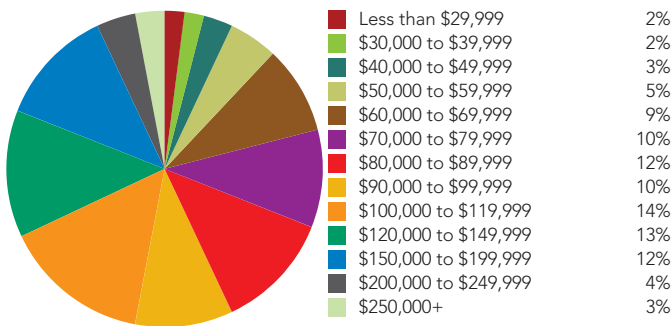
The highest average annual salaries in the United States by industry are reported for oil and gas extraction (\$163,334), refining (\$138,537), and plastics/nonmetals (\$131,667). For Canada, the highest average annual salaries by industry are reported for oil and gas extraction (CAN\$150,610), refining (CAN\$140,556), and plastics/nonmetals (CAN\$140,000). The chemical processing industry commanded the highest average annual salary in Europe at €94,000, followed by the ships/marine structures/offshore platforms industry at €90,000 and testing services at €83,000. In the United Kingdom, the industries with the highest reported average annual salaries were construction (£250,000), oil and gas extraction (£120,238), and chemical processing (£92,000). See Table 3 for average annual salaries by company function.

An Educated and Trained Workforce

Today's corrosion control workforce in North America and Europe continues to be comprised of many individuals with higher education as well as corrosion-control training. About 64% of respondents in the United States, 65% in Canada, 82% in Europe, and 70% in the United Kingdom possess an associate's degree or higher. The percentages of participants holding a bachelor's degree are 31% in the United States, 30% in Canada, 27% in Europe, and 20% in the United Kingdom; the number possessing a master's degree are 11% in the United States, 8% in Canada, 29% in Europe, and 24% in the United Kingdom; and those with a doctorate degree or higher are 6% in the United States, 4% in Canada, 17% in Europe, and 23% in the United Kingdom. Average annual incomes increase for U.S. respondents as their education level increases, with the highest average annual salary (\$157,941) reported for the post-doctorate level. For the other survey groups, higher average annual salaries do not always correlate with higher education levels, as seen in Figure 5.

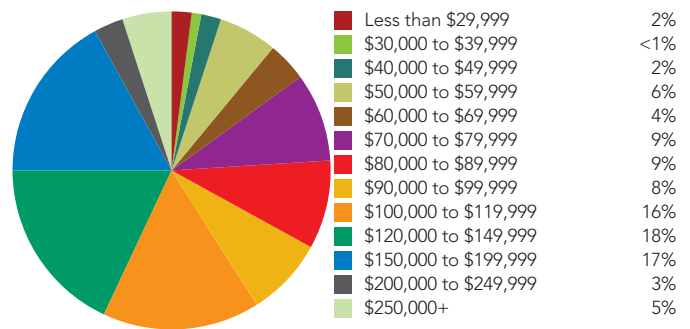
The majority of survey participants have attended educational, course-based training in the past 10 years—~81% in the United States, ~81% in Canada, ~85% in Europe, and ~81% in the United Kingdom—and many hold at least one NACE certification: ~76% in the United

FIGURE 1 Annual Compensation for U.S. Corrosion Professionals.^(A)



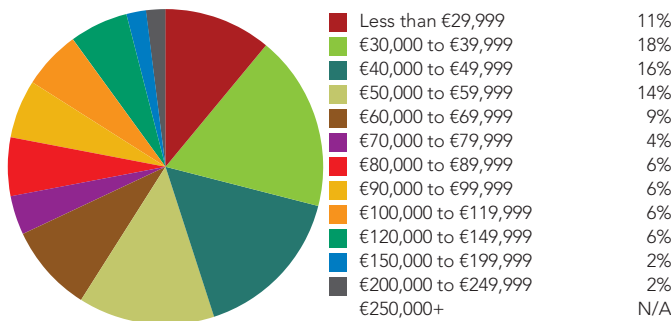
^(A)Salary plus bonus in U.S. dollars.

FIGURE 2 Annual Compensation for Canadian Corrosion Professionals.^(A)



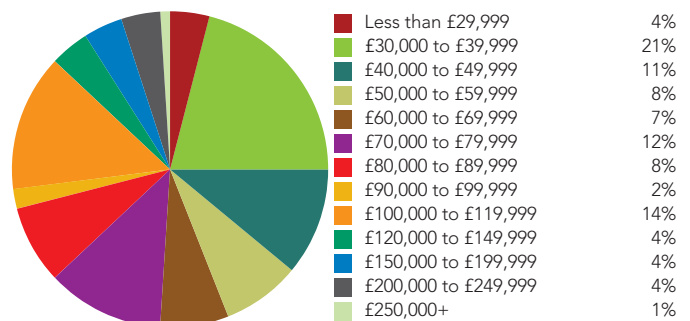
^(A)Salary plus bonus in Canadian dollars.

FIGURE 3 Annual Compensation for European Corrosion Professionals.^(A)



^(A)Salary plus bonus in Euros. N/A: No respondents selected this category.

FIGURE 4 Annual Compensation for U.K. Corrosion Professionals.^(A)



^(A)Salary plus bonus in GBP.

States, ~69% in Canada, ~59% in Europe, and ~54% in the United Kingdom. Coating Inspector Program (CIP) Level 1 continues to be the most-held NACE certification in all regions surveyed, with CIP Level 2 following as the second most-held NACE certification in Canada, Europe, and the United Kingdom. In the United States, ~26% of respondents hold the CIP Level 1 certification, with an average annual salary of \$98,717, followed by Cathodic Protection (CP) Tester certification at ~17%, with an average annual salary of \$88,784. In Canada, ~26% of all survey participants are CIP Level 1 certified with an average annual salary of CAN\$120,705, and ~14% are CIP Level 2 certified with an average annual salary of \$136,098. In Europe, ~26% are CIP Level 1 certified with an average annual salary of €67,679 and ~20% are CIP Level 2 certified with an average annual salary of €68,409. Results for the United Kingdom are similar, with ~27% of respondents holding a CIP Level 1 (with an average annual salary of £81,522) and ~20% holding CIP Level 2 (with an average annual salary of £73,824). According to one U.S. survey respondent,

“If one becomes well-schooled, it is a fantastic career that is very profitable.” Table 4 lists average annual salaries by NACE certification.

Those with a Professional Engineer (P.E.) license comprise ~9% of U.S., ~14% of Canadian, ~33% of European, and ~19% of United Kingdom respondents. Other professional certifications are also held by some of the respondents—~22% in the United States, ~34% in Canada, ~36% in Europe, and ~46% in the United Kingdom.

Experienced and Stable Employees

Across all surveys, respondents serving in the industry for 10 years or more outnumber those with less corrosion experience, although the percentages are almost evenly split in Europe where the Euro is used. In the U.S. survey, ~61% of participants have been professionally involved in corrosion prevention and mitigation for 10 years or more, while ~40% have worked in the industry for 20 years or more and ~20% have spent 30 years or more in the industry. Those working in corrosion control for four

years or less account for ~21% of U.S. respondents. Canadian members who have worked in the corrosion field for 10 years or more comprise ~58% of survey participants, with ~31% reporting 20 years or more of corrosion experience and ~15% reporting 30 years or more experience. The percentage of Canadian respondents joining the corrosion profession within the last four years is ~26%. In Europe, ~51% of respondents have worked in corrosion control for at least 10 years, with ~25% having 20 or more years of experience and ~7% reporting 30 or more years of experience. The number of European respondents entering the field within the last four years is ~19%. In the United Kingdom, ~71% of respondents have been in the corrosion industry for 10 years or more, with ~45% having 20 years or more experience and ~23% having 30 years or more experience. The percentage of those entering the U.K. corrosion industry within the past four years is ~11%.

Respondents with more years of corrosion experience earned higher average annual salaries in the United States, with the highest average annual salary reported

CAREER SURVEY RESULTS FOR 2014

TABLE 2: Average Annual Salary by Job Type

Job Function	United States (U.S.\$)	Canada (CAN\$)	Europe (EURO)	United Kingdom (GBP)
Chemist	\$119,194	\$113,750 ^(A)	€75,000 ^(A)	£38,333 ^(A)
Consultant	\$132,689	\$126,250	€76,000	£87,500
Contractor	\$100,422	\$114,444	€40,000 ^(A)	£29,999 ^(A)
Designer/Architect	N/A	\$65,000 ^(A)	N/A	N/A
Engineer	\$133,924	\$115,159	€56,667	£72,500
Inspector/QA/QC	\$101,996	\$133,704	€64,464	£84,231
Maintenance	\$74,677	\$121,000	€61,666 ^(A)	£75,000 ^(A)
Management	\$124,024	\$151,364	€108,333	£97,273
Professor/Teacher	\$110,714	N/A	€145,000 ^(A)	£45,000 ^(A)
Purchasing	\$73,333 ^(A)	N/A	N/A	N/A
Retired	\$83,500	\$66,666 ^(A)	N/A	N/A
Sales/Marketing	\$115,733	\$122,647	€80,000 ^(A)	£40,000 ^(A)
Student	\$32,666	\$60,000 ^(A)	N/A	N/A
Technician/Technologist	\$81,785	\$106,290	€49,285	£29,999 ^(A)

N/A: No respondents selected this category. ^(A)Based on fewer than five responses.

TABLE 3: Average Annual Salary by Company Function

Company Function	United States (U.S.\$)	Canada (CAN\$)	Europe (EURO)	United Kingdom (GBP)
Academic	\$89,250	\$45,000 ^(A)	€65,000 ^(A)	£38,333 ^(A)
Aerospace	\$104,167	N/A	N/A	N/A
Anodic/Cathodic Protection	\$101,793	\$92,571	€48,889	£51,000
Chemical Processing	\$109,429	\$130,625	€94,000	£92,500 ^(A)
Coatings & Linings	\$98,014	\$124,714	€70,000	£56,667
Construction	\$102,315	\$114,643	€58,750 ^(A)	£250,000 ^(A)
Engineering/Architecture Consulting Firm	\$128,857	\$95,313	€69,545	£66,429
Government	\$97,059	\$81,000	N/A	N/A
Instrumentation	\$121,000	N/A	€35,000 ^(A)	£45,000 ^(A)
Metals & Mining	\$107,083	\$108,750 ^(A)	€60,000 ^(A)	N/A
Natural Gas Utility	\$86,528	\$87,895	€65,000 ^(A)	N/A
Oil & Gas Extraction	\$163,333	\$150,610	€81,500	£120,238
Oil & Gas Pipeline/Storage Tanks	\$107,633	\$133,254	€51,000	£71,000
Original Equipment Manufacturer	\$112,083	\$55,000 ^(A)	€48,333 ^(A)	£35,000 ^(A)
Plastics/Nonmetals	\$131,667 ^(A)	\$140,000 ^(A)	€65,000 ^(A)	N/A
Power Plant/Electric Utility	\$113,065	\$96,667 ^(A)	N/A	N/A
Pulp & Paper	\$85,000 ^(A)	\$135,000 ^(A)	N/A	N/A
Refining	\$138,537	\$140,556	€77,727	£87,500 ^(A)
Research & Development	\$117,273	\$93,750 ^(A)	€52,000	£47,500 ^(A)
Ships/Marine/Offshore Platforms	\$87,414	\$121,875	€90,000 ^(A)	£63,333
Testing Services	\$83,095	\$107,500	€83,000	£80,000 ^(A)
Transportation	\$100,000	\$115,000 ^(A)	N/A	N/A
Water Distribution/Treatment	\$101,143	\$75,000 ^(A)	€58,333 ^(A)	N/A

N/A: No respondents selected this category. ^(A)Based on fewer than five responses.

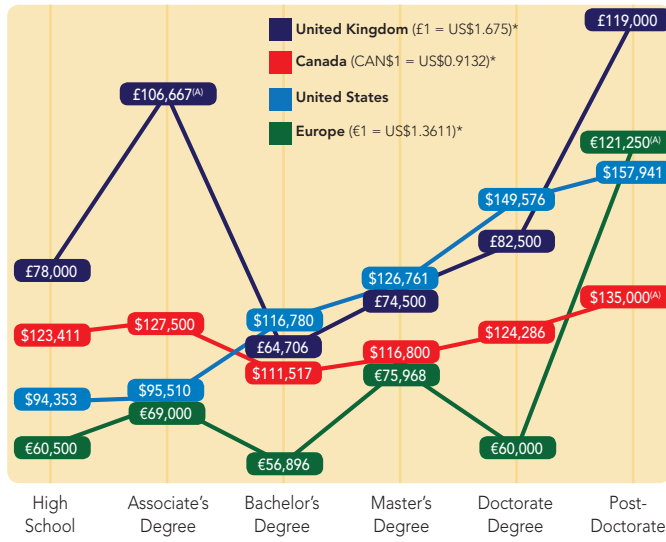
TABLE 4: Average Annual Salary by NACE Certification

NACE Certification	United States (U.S.\$)	Canada (CAN\$)	Europe (EURO)	United Kingdom (GBP)
CIP Level 1	\$98,717	\$120,705	€67,679	£81,522
CIP Level 1 Nuclear	\$101,667 ^(A)	N/A	N/A	N/A
CIP Level 1 with Bridge Specialty	\$101,000	\$75,000 ^(A)	N/A	N/A
CIP Level 1 with Marine and Bridge Specialties	\$175,000 ^(A)	N/A	N/A	N/A
CIP Level 1 with Marine Specialty	\$175,000 ^(A)	N/A	N/A	N/A
CIP Level 2	\$109,108	\$136,098	€68,409	£73,824
CIP Level 2 Marine	\$175,000 ^(A)	\$29,999 ^(A)	N/A	N/A
CIP Level 2 Nuclear	\$120,000 ^(A)	N/A	N/A	N/A
CIP Level 2 with Bridge Specialty	\$126,667	\$105,000 ^(A)	N/A	N/A
CIP Level 2 with Marine and Bridge Specialties	N/A	N/A	N/A	N/A
CIP Level 2 with Marine Specialty	\$120,000	\$110,000 ^(A)	N/A	N/A
CIP Level 3—Peer Review	\$116,408	\$124,359	€85,417	£91,667
CIP Level 3—Peer Review with Bridge	\$108,696	\$139,286	N/A	£85,000 ^(A)
CIP Level 3—Peer Review with Marine	\$113,500	N/A	N/A	N/A
CIP Level 3—Peer Review with Marine and Bridge	\$135,000 ^(A)	N/A	€45,000 ^(A)	N/A
CIP Level 3 Nuclear	\$157,500	N/A	€55,000 ^(A)	N/A
Chemical Treatment Specialist	\$118,333 ^(A)	N/A	€55,000 ^(A)	N/A
Corrosion Specialist	\$127,632	\$225,000 ^(A)	N/A	£80,000 ^(A)
Corrosion Technician	\$100,694	\$117,833	€50,000 ^(A)	N/A
Corrosion Technologist	\$102,210	\$143,000	€50,000 ^(A)	£82,500 ^(A)
CP Specialist	\$140,354	\$146,667	€115,000 ^(A)	£45,000 ^(A)
CP Technician	\$95,246	\$94,722	€34,285	£35,000 ^(A)
CP Technician—Maritime	\$110,000 ^(A)	N/A	N/A	N/A
CP Technologist	\$111,474	\$117,272	€79,000	£51,667 ^(A)
CP Tester	\$88,784	\$125,938	€54,286	N/A
Internal Corrosion Specialist	\$118,636	\$174,167	€135,000 ^(A)	N/A
Internal Corrosion Technologist	\$108,721	\$131,154	€60,000 ^(A)	N/A
Material Selection/Design Specialist	\$166,000	\$143,333 ^(A)	N/A	N/A
OCAT Technician	\$77,500	N/A	€45,000 ^(A)	N/A
PCIM Technician	\$130,000	N/A	N/A	N/A
PCIM Technologist	\$115,000 ^(A)	N/A	N/A	N/A
Protective Coating Specialist	\$129,815	\$137,500 ^(A)	N/A	N/A
Protective Coating Technologist	\$135,000	\$131,667 ^(A)	N/A	£45,000 ^(A)
SCAT Technician	\$91,429	N/A	N/A	N/A
Senior Corrosion Technologist	\$124,293	\$153,529	N/A	£49,000
Senior Internal Corrosion Technologist	\$122,000	\$138,750 ^(A)	€85,000 ^(A)	N/A

N/A: No respondents selected this category.

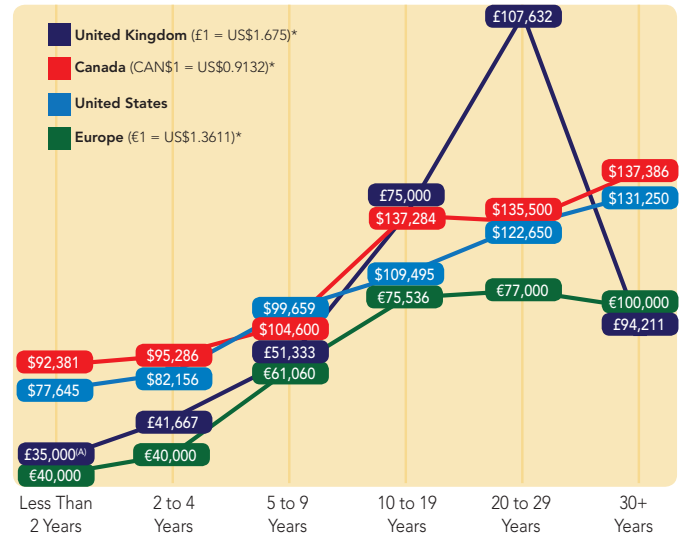
^(A)Based on fewer than five responses.

FIGURE 5 Average Annual Salary by Highest Education Level.



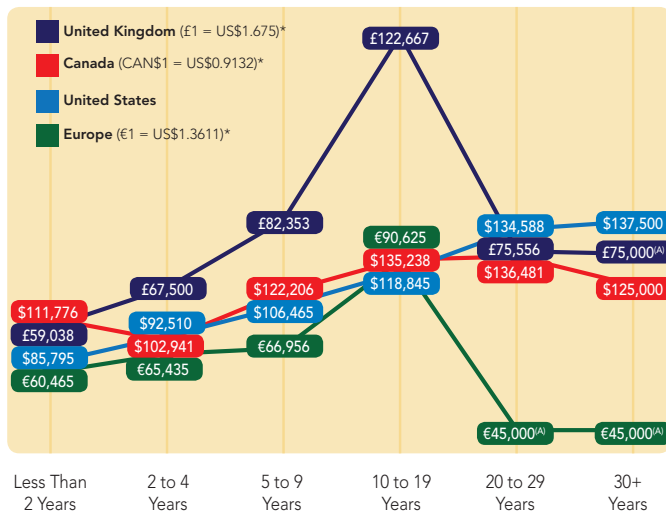
^(A)Based on fewer than five responses. *Currency exchange rates at press time (June 4, 2014).

FIGURE 6 Average Annual Salary by Years of Corrosion Experience.



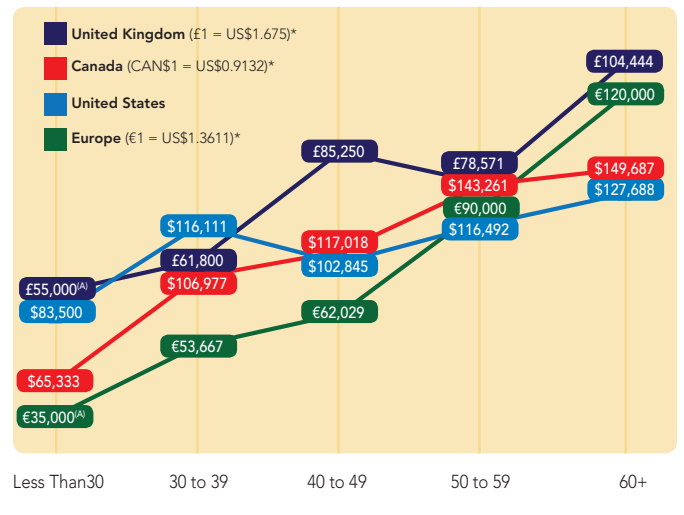
^(A)Based on fewer than five responses. *Currency exchange rates at press time (June 4, 2014).

FIGURE 7 Average Annual Salary by Years of NACE International Membership.



^(A)Based on fewer than five responses. *Currency exchange rates at press time (June 4, 2014).

FIGURE 8 Average Annual Salary by Hours Worked Per Week.



^(A)Based on fewer than five responses. *Currency exchange rates at press time (June 4, 2014).

for those with 30-plus years of corrosion control experience. The survey results for the other regions, however, didn't always show higher average annual salaries with increasing experience, although the highest average annual salaries are reported for those respondents with at least 10 years of experience. Figure 6 shows average annual salaries by years of corrosion experience.

Similarly, average annual salaries for respondents in the United States increased as years of NACE membership increased, with the highest average annual salary by membership (\$137,500) reported for those with 30 or more years with NACE.

For the other regions surveyed, the highest average annual salary by NACE membership was CAN\$136,481 for Canadians with 20 to 29 years with NACE; €90,625 for Europeans with 10 to 19 years with NACE; and £122,667 for United Kingdom respondents with 10 to 19 years with NACE. Figure 7 shows average annual salary by years of NACE membership.

For the three groups surveyed last year, the number of respondents who have been NACE members for less than 10 years has increased over the past year—from ~56 to ~59% for the United States, ~61 to ~65% for Canada, and ~80 to ~82% for Europe—a change from the decrease seen

in the 2013 survey. Those joining NACE within the past two years are ~21% for the United States, ~25% for Canada, and ~40% for Europe. The number of participants with 20 or more years of NACE membership has either decreased or remained the same—from ~22 to ~21% in the United States, ~15 to ~15% in Canada, and ~6 to ~2.8% in Europe—which is a reversal of the increase reported in last year's survey. In the United Kingdom, ~70% of respondents have less than 10 years of NACE membership, ~31% joined NACE within the past two years, and ~12% have been NACE members for more than 20 years. In May 2014, total NACE membership was 33,879,

an 8% increase in membership since May 2013.

In addition to continuing in the corrosion profession for many years, a number of respondents have stayed with their employers on a long-term basis, although the percentages have decreased compared to the 2013 survey. About 37% (vs. 44% in 2013) of U.S., 29% (vs. 35% last year) of Canadian, and 32% (vs. 43% in 2013) of European participants have worked for their current employer for 10 or more years. Those staying with the same employer for 20 years or more are ~21% (vs. ~26% in 2013) for the United States, ~16% (vs. ~18% in 2013) for Canada, and ~15% (vs. ~21% in 2013) for Europe. About 21% of U.S., 27% of Canadian, and 19% of European respondents have been with their employer less than two years. In the United Kingdom, ~31% of respondents have worked for their current employer for 10 or more years, ~18% have worked for their employer for 20 years or more, and ~18% have been with their employer less than two years.

Similarly, survey results for the groups polled last year indicate a decrease in the number of respondents who have stayed with the same employer at least 10 years: ~40% of U.S. (vs. ~47% in 2013), ~32% (vs. ~42% in 2013) of Canadian, and ~40% (vs. ~53% last year) of European respondents. Those changing employers once in the past 10 years are ~27% (vs. ~26% last year) of U.S., ~25% (vs. ~28% last year) of Canadian, and ~23% (vs. ~17% last year) of European respondents; and those changing employers twice are ~13% (vs. ~12% last year) of U.S., ~20% (vs. ~14% last year) of Canadian, and ~19% (vs. ~15% last year) of European participants. Those changing employers five or more times are ~4% of U.S., ~5% of Canadian, and ~3% of European respondents. In the United Kingdom, ~37% have stayed with same employer for at least 10 years, ~30% have changed employers once in the past 10 years, ~10% have changed employers twice, and ~5% have changed employers five times or more.

Again this year, respondents who work 60 or more hours per week are reporting the highest average annual salaries—\$127,688 for U.S., CAN\$149,687 for Canadian, €120,000 for European, and £104,444 for U.K. participants—and all are higher than the highest average

annual salaries for this category that were reported by the groups surveyed last year. The percentages of respondents working those hours are ~13% in United States, ~11% in Canada, ~5% in Europe, and ~11% in the United Kingdom. The majority of respondents (except for those in the United Kingdom) work a 40- to 49-hour workweek: ~61% in the United States, ~55% in Canada, ~64% in Europe, and ~48% in the United Kingdom. The percentages of those working 50 to 59 hours a week are ~20% in the United States, ~15% in Canada, ~15% in Europe, and ~8% in the United Kingdom. Results for the Canadian and European surveys show that average annual salaries increased as the number of hours worked per week increased. The U.S. and U.K. survey results, however, did not fit this trend. The U.S. survey shows a higher average annual salary for respondents working 30 to 39 hours per week than for those working 40 to 49 hours per week, and the U.K. survey shows a higher average annual salary for those working 40 to 49 hours per week than for those working 50 to 59 hours per week. Figure 8 shows average annual salary by hours worked per week.

Many of the survey participants work for companies with 500 or more employees—~55% of U.S., ~49% of Canadian, ~51% of European, and ~63% of U.K. respondents—with ~19% (United States), ~19% (Canada), ~16% (Europe), and ~13% (United Kingdom) of respondents working for companies with 100 to 499 employees; and ~26% (United States), ~32% (Canada), ~33% (Europe), and ~24% (United Kingdom) working for companies with less than 100 employees. Those who are self-employed make up ~9% of U.S., ~17% of Canadian, ~19% of European, and ~24% of U.K. respondents. The highest average annual salaries by company size are reported as follows: \$114,412 in the United States at companies with six to 19 employees; CAN\$126,284 in Canada at companies with 500-plus employees; €105,000 for respondents in Europe at companies with 20 to 49 employees; and £88,679 at companies in the United Kingdom with 500-plus employees (see Table 5).

According to the survey results, the corrosion field continues to be predominantly male. Women comprise 7% of the U.S., 11% of the Canadian, 10% of the European, and 7% of the U.K. respondents.

Responses were received from participants in all 50 U.S. states; nine Canadian provinces and one territory; 10 European countries using the Euro; and three countries in the United Kingdom. However, the average annual salaries reported may not be typical because some of these geographic locations had few responders. Tables 6 through 9 depict average annual salaries by U.S. state, Canadian province and territory, European country, and U.K. country respectively. Overall, the highest average annual salaries reported by geographic location are \$175,000 in New Hampshire (United States), CAN\$ 136,399 in Alberta (Canada), €99,167 in France (Europe), and £155,000 in Northern Ireland (United Kingdom). The largest percentages of respondents in the United States are located in Texas (~25%), California (~8%), and Louisiana (~5%), which parallels the U.S. demographic results reported in the previous five surveys. Similarly, Canada's geographic percentages mirror survey results from the last five years as well, with the largest number of participants from Alberta (~56%), Ontario (~19%), and British Columbia (~9%). Most European respondents are located in Italy (~25%), The Netherlands (~22%), and Spain (~19%); and most of the U.K. respondents are from England (~75%) and Scotland (~23%).

Challenges of the Profession

In North America, many corrosion professionals report that the job aspects they would most like to change continue to be a larger budget for corrosion control and more advancement opportunities. Many European respondents also selected more advancement opportunities as something they would most like to change, but improved access to effective corrosion control technologies was also rated as important.

As in previous years' surveys, many respondents expressed a desire for larger staffs and budgets, more manageable workloads, a larger pool of qualified job candidates, less travel, and better pay. Many commented that it is challenging to keep up with changing technology, and they would like to have more in-depth training on proper corrosion control, as well as the time to attend training classes to further their education and stay up-to-date on current technology.

TABLE 5: Average Annual Salary by Company Size

No. of Employees	United States (US\$)	Canada (CAN\$)	Europe (EURO)	United Kingdom (GBP)
1-5	\$111,886	\$125,428	€59,583	£70,909
6-19	\$114,412	\$100,000	€55,357	£35,000 ^(A)
20-49	\$91,284	\$130,588 ^(A)	€105,000	£37,500 ^(A)
50-99	\$104,495	\$100,952	€67,143	£47,500
100-499	\$102,526	\$115,175	€80,294	£66,818
500+	\$112,361	\$126,284	€65,273	£88,679

^(A)Based on fewer than five responses.

Balancing the maintenance of aging facilities and oil and gas infrastructure with shrinking budgets is mentioned as a hurdle by some survey participants. Several commented that one challenge is educating decision makers on the importance of corrosion prevention and control for extending asset life, and convincing them that corrosion control and maintenance is worth the money and that corrosion programs should be funded. One member says the challenge is “trying to explain to upper management that corrosion control is not just a cost center. Granted that up-front my department does not generate a quarterly cash profit, but the benefit is obtained by extending the useful life of an asset and enabling the asset to continue to safely operate for years to come.” Another comments that, “Everyone wants to stop corrosion, but no one wants to put any money into the effort.”

Budgets also pose other challenges. Several reported that it is a struggle to convey the message to management or clients that costs incurred by corrosion over the long term can be much higher than the short-term cost of its prevention, and spending money up-front will save money in the long run. One respondent comments that “Corrosion is a long-term problem, and many managers are judged on short-term metrics.” Another writes that the difficulty is “getting management to realize that taking the least cost or minimum required approach to meet criteria is not in their own best interest. In the long run, it may prove to be more expensive.” Says another, “They would rather not spend now even though it could cost them up to 10 times more down the road.”

Others comment on a general lack of understanding by decision makers of the

importance of early corrosion prevention, which is evidenced by the decay of infrastructure that could have been prevented by proper application of corrosion prevention technologies and materials. There is a need to proactively plan for corrosion at the start of a project and invest in better materials up-front to avoid the high cost of repairs and catastrophic failures in the future. “The most difficult part is making people understand that corrosion is a long-term process that must be coped with from the beginning,” observes a respondent. Says another, “The greatest challenge is to have owners implement and support a corrosion control program from the beginning before structures and piping have deteriorated to the point where they are forced to implement a program.” Another writes, “I would say that the greatest challenge is being able to get corrosion control designed and installed from day one. Many times corrosion control is an afterthought and reactive versus planned and proactive.” Another says corrosion is “out of sight, out of mind, until something bad happens. Getting folks to think proactively and preventively is virtually impossible until a company lives through a philosophy-changing ‘event’ and is forced to step up and do the right things.”

Several survey participants also commented on the rapid advancements in corrosion control and the need to embrace the industry’s technological changes. Says one participant, “The greatest challenge to me is getting people to accept change. Lots of times companies want to do things like they always have in the past. Today’s steel is different from steel produced 30 years ago; therefore, heat treatments, corrosion control, etc. will be different. I get a lot of ‘that’s the way we always did it in the past, so it has to be right.’ That’s not

always the case.” Another notes a need to bridge the gap between corrosion control innovations and the people who can incorporate those developments within their respective companies. “I have worked with companies who have not changed their specifications in years, but still expect the results of updated technologies,” he says.

Survey Methodology

The 2014 corrosion career survey was conducted in North America and Europe by Newlio, an independent survey development and management company. In April 2014, approximately 17,715 NACE International members in the United States, 3,319 in Canada, 1,066 in Europe (who use the Euro as their currency), and 1,010 in the United Kingdom received an e-mail with an invitation to participate and a link to their respective online survey. At the close of the survey, 1,574 U.S. surveys were completed, representing a 95% confidence level in the survey results plus or minus 2.4% for error; 302 Canadian surveys were submitted, resulting in a 95% confidence level with a margin of error of plus or minus 5.4%; 108 European members using the Euro participated, for a confidence level of 95% plus or minus an error margin of 8.9%; and 84 members from the United Kingdom completed the survey, which is a 95% confidence level plus or minus 10.2% for a margin of error.²

References

- 1 U.S. Department of Labor, Bureau of Labor Statistics, “Occupational Employment Statistics, May 2012 National Occupational Employment and Wage Estimates, United States,” http://www.bls.gov/oes/current/oes_nat.htm#17-0000 (May 27, 2014).
- 2 The Survey System, <http://www.survey-system.com/sscalc.htm> (June 2, 2014).

(continued on page 146)

TABLE 6: Average Salary by U.S. State (U.S.\$)

State	Average Salary	State	Average Salary	State	Average Salary	State	Average Salary
Alabama	\$100,526	Illinois	\$101,029	Montana	\$94,375	Rhode Island	\$84,000
Alaska	\$135,893	Indiana	\$102,917	Nebraska	\$96,500	South Carolina	\$91,154
Arizona	\$82,353	Iowa	\$93,333	Nevada	\$103,125	South Dakota	\$63,333 ^(A)
Arkansas	\$103,846	Kansas	\$85,000	New Hampshire	\$175,000 ^(A)	Tennessee	\$104,231
California	\$124,960	Kentucky	\$93,182	New Jersey	\$126,250	Texas	\$121,140
Colorado	\$108,780	Louisiana	\$111,706	New Mexico	\$96,957	Utah	\$78,636
Connecticut	\$98,000	Maine	\$58,333 ^(A)	New York	\$100,172	Vermont	\$55,000 ^(A)
Delaware	\$111,429	Maryland	\$96,111	North Carolina	\$88,095	Virginia	\$89,286
District of Columbia	N/A	Massachusetts	\$126,667	North Dakota	\$124,500	Washington	\$104,878
Florida	\$96,170	Michigan	\$103,148	Ohio	\$100,755	West Virginia	\$111,000
Georgia	\$115,208	Minnesota	\$89,000	Oklahoma	\$112,077	Wisconsin	\$99,118
Hawaii	\$73,333 ^(A)	Mississippi	\$101,111	Oregon	\$93,500	Wyoming	\$93,809
Idaho	\$122,500 ^(A)	Missouri	\$91,500	Pennsylvania	\$95,267	U.S. Average	\$108,615

N/A: No respondents selected this category.

^(A)Based on fewer than five responses.**TABLE 7: Average Salary by Canadian Province and Territory (CAN\$)**

Province/Territory	Average Salary	Province	Average Salary
Alberta	\$136,399	Nunavut	N/A
British Columbia	\$111,429	Ontario	\$93,684
Manitoba	\$95,000 ^(A)	Prince Edward Island	N/A
New Brunswick	\$105,000 ^(A)	Quebec	\$102,000
Newfoundland and Labrador	\$136,250	Saskatchewan	\$94,444
Northwest Territories	N/A	Yukon	\$135,000 ^(A)
Nova Scotia	\$81,818	Canadian Average	\$120,480

N/A: No respondents selected this category.

^(A)Based on fewer than five responses.**TABLE 8: Average Salary by European Union Country (Euro)**

Country	Average Salary	Country	Average Salary
Austria	N/A	Latvia	N/A
Belgium	€72,778	Luxemburg	N/A
Cyprus	N/A	Malta	N/A
Estonia	N/A	The Netherlands	€75,625
Finland	€55,000 ^(A)	Portugal	€45,000 ^(A)
France	€99,167	Slovakia	N/A
Germany	€94,000	Slovenia	N/A
Greece	€40,000 ^(A)	Spain	€48,000
Ireland	€37,500 ^(A)	European Average	€66,944
Italy	€52,407		

N/A: No respondents selected this category.

^(A)Based on fewer than five responses.**TABLE 9: Average Salary by U.K. Country (GBP)**

Country	Average Salary	Country	Average Salary
England	£72,778	Wales	N/A
Northern Ireland	£155,000 ^(A)	U.K. Average	£78,690
Scotland	£90,263		

N/A: No respondents selected this category.

^(A)Based on fewer than five responses.