

MKS INSTRUMENTS, INC.

CODE OF BUSINESS CONDUCT AND ETHICS

(as amended through 2016)

This Code of Business Conduct and Ethics (the “Code”) sets forth legal and ethical standards of conduct for directors, officers and employees of MKS Instruments, Inc. and all of its subsidiaries and other business entities controlled by it worldwide (collectively, “MKS” or the “Company”). This Code is intended to deter wrongdoing and to promote the conduct of all Company business in accordance with high standards of integrity and in compliance with all applicable laws and regulations.

If you have any questions regarding this Code or its application to you in any situation, you should contact your immediate manager, Human Resources representative or the Chief Financial Officer.

Compliance with Laws, Rules and Regulations

The Company requires that all employees, officers and directors comply with all laws, rules and regulations applicable to the Company wherever it does business. You are expected to use good judgment and common sense in seeking to comply with all applicable laws, rules and regulations and to ask for advice when you are uncertain about them.

If you become aware of the violation of any law, rule or regulation by the Company, whether by its officers, employees or directors, it is your responsibility to promptly report the matter directly to Company management or through the MKS Compliance Hotline (see “Reporting and Compliance Procedures” on page 8 for additional information). While it is the Company’s desire to address matters internally, nothing in this Code should discourage you from reporting any illegal activity, including any violation of the securities laws, antitrust laws, environmental laws or any other federal, state or foreign law, rule or regulation, to the appropriate regulatory authority. Employees, officers and directors shall not discharge, demote, suspend, threaten, harass or in any other manner discriminate against an employee because he or she in good faith reports any such violation. This Code will not be construed to prohibit you from testifying, participating or otherwise assisting in any state or federal administrative, judicial or legislative proceeding or investigation.

Conflicts of Interest

Employees, officers and directors must act in the best interests of the Company. You must refrain from engaging in any activity or having a personal interest that presents a “conflict of interest.” A conflict of interest occurs when your personal interest interferes, or appears to interfere, with the interests of the Company. A conflict of interest can arise whenever you, as an officer, director or employee, take action or have an interest that prevents you from performing your Company duties and responsibilities honestly, objectively and effectively.

During employment with the Company, employees (excluding officers and directors, who are addressed separately below) must not:

1. Have a financial interest in a Significant Supplier, Significant Customer or a competitor of the Company (except for equity grants made in connection with the employee's approved services in accordance with subsection 3 below, if such grants are disclosed to the Board of Directors in advance, and are not, in the Board of Directors' sole discretion, inappropriate or excessive in amount). Investments in mutual funds or investments representing one percent (1%) or less of the outstanding shares of a publicly-held company that competes or does business with the Company do not constitute a conflict of interest.
2. Use MKS' name, property, proprietary or confidential information, or goodwill for personal gain or for the gain of others;
3. Perform services as a consultant, employee, officer, director, advisor or in any other capacity, for a Significant Customer, Significant Supplier or a competitor of the Company, other than at the written request of the Board of Directors; or
4. Engage in any other activity that may reasonably be expected to give rise to a conflict of interest or to adversely affect the interests of the Company.

During employment or engagement with the Company, officers, including officers who are also directors, must not:

1. Have, or permit any Close Relative to have, a financial interest in a competitor of the Company unless the competitor is a publicly traded company and the investment is one percent (1%) or less of the outstanding shares of common stock of the competitor;
2. Have, or permit any Close Relative to have, a financial interest in a Significant Supplier or Significant Customer of the Company (except for equity grants made in connection with the officer's approved services in accordance with subsection 4 below, if such grants are disclosed to the Board of Directors in advance, and are not, in the Board of Directors' sole discretion, inappropriate or excessive in amount);
3. Use MKS' name, property, proprietary or confidential information, or goodwill for personal gain or for the gain of others;
4. Perform services as a consultant, employee, officer, director, advisor or in any other capacity, or permit any Close Relative to perform services as an officer or director, for a Significant Customer, Significant Supplier or a competitor of the Company, other than at the written request of the Board of Directors;
5. Supervise, review or influence the job evaluation or compensation of a member of his or her Immediate Family; or

6. Engage in any other activity or have any other interest that the Board of Directors of the Company determines to constitute a conflict of interest.

During employment or engagement with the Company, directors must not:

1. Have, or permit any Close Relative to have, a financial interest in a competitor of the Company unless (a) the competitor is a publicly traded company and the investment is one percent (1%) or less of the outstanding shares of common stock of the competitor; (b) the financial interest in a competitor is an investment in a mutual fund or funds; or (c) the financial interest in a competitor is an investment in a venture capital fund or funds and the director, or any Close Relative of the director, is not making specific investment decisions for, and is not a principal or general partner of, such fund or funds;
2. Use MKS' name, property, proprietary or confidential information, or goodwill for personal gain or for the gain of others;
3. Perform services as a consultant, employee, officer, director, advisor or in any other capacity, or permit any Close Relative to perform services as an officer or director, for a competitor of the Company if the consolidated gross revenues of the competitor from the sale or other disposition of competitive products and services during its last full fiscal year are in excess of five percent (5%) of the competitor's consolidated gross revenues from all sources during its last full fiscal year ("Significant Competitor");
4. Use his or her position with the Company to influence any decision of the Company relating to a contract, transaction or any other activity with a Significant Supplier, Significant Customer or Significant Competitor of the Company if the director or a Close Relative of the director:
 - ◆ performs services as a consultant, employee, officer, director, advisor or in any other capacity for such supplier, customer or competitor; or
 - ◆ has a financial interest in such supplier, customer or competitor.
5. Supervise, review or influence the job evaluation or compensation of a member of his or her Immediate Family; or
6. Engage in any other activity or have any other interest that the Board of Directors of the Company determines to constitute a conflict of interest.

A "Close Relative" means a spouse, dependent child or any other person living in the same home with the employee, officer or director.

"Immediate Family" means a Close Relative and a parent, sibling, child, mother- or father-in-law, son- or daughter-in-law or brother- or sister-in-law.

A “Significant Customer” is a customer that has made during the Company’s last full fiscal year, or proposes to make during the Company’s current fiscal year, payments to the Company for property or services in excess of five percent (5%) of (i) the Company’s consolidated gross revenues for its last full fiscal year or (ii) the customer’s consolidated gross revenues for its last full fiscal year, but only if such payments exceed \$250,000 in such year.

A “Significant Supplier” is a supplier to which the Company has made during the Company’s last full fiscal year, or proposes to make during the Company’s current fiscal year, payments for property or services in excess of five percent (5%) of (i) the Company’s consolidated gross revenues for its last full fiscal year or (ii) the supplier’s consolidated gross revenues for its last full fiscal year, but only if such payments exceed \$250,000 in such year.

It is your responsibility to disclose any material transaction or relationship that reasonably could be expected to give rise to a material conflict of interest to the Chief Financial Officer or, if you are an executive officer or director, to the Board of Directors, who shall be responsible for determining whether such transaction or relationship constitutes a material conflict of interest.

Insider Trading

Employees, officers and directors who have material non-public information about the Company or other companies, including our suppliers and customers, as a result of their relationship with the Company are prohibited by law and Company policy from trading in securities of the Company or such other companies, as well as from communicating such information to others who might trade on the basis of that information. Material non-public information is defined as any non-public information that if disclosed would influence an investor’s decision regarding the Company’s securities. To help ensure that you do not engage in prohibited insider trading and avoid even the appearance of an improper transaction, the Company has adopted an Insider Trading Policy, which is available on the Company’s electronic policy database.

If you are uncertain about the constraints on your purchase or sale of any Company securities or the securities of any other company that you are familiar with by virtue of your relationship with the Company, you should consult with the Legal Department before making any such purchase or sale.

Confidentiality

Employees, officers and directors must maintain the confidentiality of confidential information entrusted to them by the Company or other companies, including our suppliers and customers, except when disclosure is authorized by Company management or legally mandated. Unauthorized disclosure of any confidential information is prohibited. Additionally, employees should take appropriate precautions to ensure that confidential or sensitive business information, whether it is proprietary to the Company or another company, is not communicated within the Company except to employees who have a need to know such information to perform their responsibilities for the Company.

To protect the confidentiality of the Company’s research and development of products and markets, all employees and officers are required to sign a confidential information agreement (or an

equivalent agreement) as a condition of their employment. By signing that agreement, all employees and officers agree to, among other things, the following:

1. All employees and officers must not disclose or in any other way make use of Company trade secrets and confidential information;
2. All files, records, drawings, notes and other documents will be and will remain the property of the Company; and
3. Any and all inventions, improvements, or discoveries related to the Company's business that an employee or officer make while employed by the Company shall be and shall remain the property of the Company.

A copy of the confidential information agreement is available from Human Resources.

Third parties may ask you for information concerning the Company. Employees, officers and directors (other than the Company's authorized spokespersons) must not discuss internal Company matters with, or disseminate internal Company information to, anyone outside the Company, except as required in the performance of their Company duties and only after an appropriate confidentiality agreement is in place. This prohibition applies particularly to inquiries concerning the Company from the media, market professionals (such as securities analysts, institutional investors, investment advisers, brokers and dealers) and security holders. All responses on behalf of the Company to inquiries must be made only by the Company's authorized spokespersons, who are the Chief Executive Officer, Chief Financial Officer, Vice President of Corporate Marketing and the Director of Investor Relations. If you receive any inquiries of this nature, you must decline to comment and refer the inquirer to one of the Company's authorized spokespersons.

Employees, officers and directors also must abide by any lawful obligations that they have to their former employer. These obligations may include restrictions on the use and disclosure of confidential information, restrictions on the solicitation of former colleagues to work at the Company and non-competition obligations.

Honest and Ethical Conduct and Fair Dealing

Employees, officers and directors should endeavor to deal honestly, ethically and fairly with the Company's suppliers, customers, competitors and employees. Statements regarding the Company's products and services must not be untrue, misleading, deceptive or fraudulent. Employees, officers and directors must not take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair-dealing practice.

Protection and Proper Use of Corporate Assets

Employees, officers and directors should seek to protect the Company's assets. Theft, carelessness and waste have a direct impact on the Company's financial performance. Employees, officers and directors must use the Company's assets and services solely for legitimate business purposes of the Company and not for any personal benefit or the personal benefit of anyone else.

Employees, officers and directors must advance the Company's legitimate interests when the opportunity to do so arises. Employees, officers and directors must not take for themselves personal opportunities that are discovered through their position with the Company or use for themselves property or information of the Company.

Gifts and Gratuities

The use of Company funds or assets for gifts, gratuities or other favors to employees, officers, directors or government officials is prohibited, except to the extent such gifts are in compliance with applicable law, nominal in amount and not given in consideration or expectation of any action by the recipient.

Employees, officers and directors must not accept, or permit any member of his or her Immediate Family to accept, any gifts, gratuities or other favors from any customer, supplier or other person doing or seeking to do business with the Company, other than items of nominal value. Any gifts that are not of nominal value should be returned immediately and reported to your immediate manager. If immediate return is not practical, they should be given to the Company for charitable disposition or such other disposition as the Company believes appropriate in its sole discretion.

Common sense and moderation should prevail in business entertainment engaged in on behalf of the Company. Employees, officers and directors should provide, or accept, business entertainment to or from anyone doing business with the Company only if the entertainment is intended to serve legitimate business goals.

Bribes and kickbacks are criminal acts, strictly prohibited by law. Employees, officers and directors must not offer, give, solicit or receive any form of bribe or kickback. The Company intends to comply with the anti-corruption laws of the countries in which it does business, including the U.S. Foreign Corrupt Practices Act, which applies to its global business. Employees, officers and directors must not directly or indirectly offer or make a corrupt payment to foreign government officials, including employees of state-owned enterprises, foreign political parties or candidates, or public international organizations.

Accuracy of Books and Records and Public Reports

Employees, officers and directors must honestly and accurately report all business transactions. You are responsible for the accuracy of your records and reports. Accurate information is essential to the Company's ability to meet legal and regulatory obligations.

All Company books, records and accounts shall be maintained in accordance with all applicable regulations and standards and accurately reflect the true nature of the transactions they record. The financial statements of the Company shall conform to generally accepted accounting rules and the Company's accounting policies. No undisclosed or unrecorded account or fund shall be established for any purpose. No false or misleading entries shall be made in the Company's books or records for any reason, and no disbursement of corporate funds or other corporate property shall be made without adequate supporting documentation.

It is the policy of the Company to provide full, fair, accurate, timely and understandable disclosure in reports and documents filed with, or submitted to, the Securities and Exchange Commission and in other public communications.

Concerns Regarding Accounting or Auditing Matters

Employees with concerns regarding questionable accounting or auditing matters or complaints regarding accounting, internal accounting controls or auditing matters may confidentially, and anonymously if they wish, submit such concerns or complaints through the MKS Compliance Hotline using the toll-free telephone number (1-800-826-6762) (see attached local access codes and dialing instructions when calling from outside of the U.S.) or the website (mksinst.alertline.com). All such concerns and complaints will be forwarded to the Audit Committee of the Board of Directors, unless they are determined to be without merit by the General Counsel and the Chief Financial Officer of the Company. In any event, a complete record of all complaints will be provided to the Audit Committee of the Board of Directors each fiscal quarter. Any such concerns or complaints may also be communicated, confidentially and, if you desire, anonymously, directly to any member of the Audit Committee of the Board of Directors.

The Audit Committee of the Board of Directors will evaluate the merits of any concerns or complaints received by it and authorize such follow-up actions, if any, as it deems necessary or appropriate to address the substance of the concern or complaint.

The Company will not discipline, discriminate against or retaliate against any employee who reports a complaint or concern (unless the employee is found to have knowingly and willfully made a false report).

Waivers of this Code of Business Conduct and Ethics

While some of the policies contained in this Code must be strictly adhered to and no exceptions can be allowed, in other cases exceptions may be possible. Any employee or officer, other than a director or an executive officer, who believes that an exception to any of these policies is appropriate in his or her case should first contact his or her immediate manager. If the manager agrees that an exception is appropriate, the approval of the Chief Financial Officer must be obtained. The Chief Financial Officer shall be responsible for maintaining a complete written record of all requests for exceptions to any of these policies and the disposition of such requests.

Any executive officer or director who seeks an exception to any of these policies should contact the Chief Financial Officer. Any waiver of this Code for executive officers or directors or any change to this Code that applies to executive officers or directors may be made only by the Board of Directors of the Company and will be disclosed as required by law or NASDAQ regulation.

Reporting and Compliance Procedures

Every employee, officer and director has the responsibility to ask questions, seek guidance, report suspected violations and express concerns regarding compliance with this Code. Any employee, officer or director who knows or believes that any other employee, officer, director or representative of the Company has engaged or is engaging in conduct that violates this Code should

report such information to his or her immediate manager or Human Resources representative or to the Chief Financial Officer or the General Counsel of MKS.

You may also report any violations or suspected violations of this Code, on a confidential basis, through the MKS Compliance Hotline using the toll-free telephone number (1-800-826-6762) (see attached local access codes and dialing instructions when calling from outside of the U.S.) or the website (mksinst.alertline.com). While we strongly encourage you to identify yourself when reporting violations so that we may follow up with you, as necessary, for additional information and may adequately investigate and address the matter, you may report violations anonymously if you wish (unless anonymous reports are prohibited by local law¹).

You may report such conduct without fear of retaliation. The Company will not discipline, discriminate against or retaliate against any employee who reports such conduct in good faith, whether or not such information is ultimately proven to be correct, or who cooperates in any investigation or inquiry regarding such conduct. Any manager or Human Resources representative who receives a report of a violation of this Code must immediately inform the Chief Financial Officer or the General Counsel.

If the Chief Financial Officer or the General Counsel receives information regarding an alleged violation of this Code, he or she shall, as appropriate, (a) evaluate such information, (b) if the alleged violation involves an executive officer or a director, inform the Chief Executive Officer and Board of Directors of the alleged violation, (c) determine whether it is necessary to conduct an informal inquiry or a formal investigation and, if so, initiate such inquiry or investigation and (d) report the results of any such inquiry or investigation, together with a recommendation as to disposition of the matter, to the Audit Committee of the Board of Directors for action, or if the alleged violation involves an executive officer or a director, report the results of any such inquiry or investigation to the Board of Directors. Employees, officers and directors are expected to cooperate fully with any inquiry or investigation by the Company regarding an alleged violation of this Code. Failure to cooperate with any such inquiry or investigation may result in disciplinary action, up to and including discharge.

The Company shall determine whether violations of this Code have occurred and, if so, shall determine the disciplinary measures to be taken against any employee who has violated this Code. In the event that the alleged violation involves an executive officer or a director, the Chief Executive Officer and the Board of Directors, respectively, shall each determine whether a violation of this Code has occurred and, if so, shall determine the disciplinary measures to be taken against such executive officer or director.

Failure to comply with the standards outlined in this Code will result in disciplinary action including, but not limited to, reprimands, warnings, probation or suspension without pay, demotions, reductions in salary, discharge and restitution, as appropriate under applicable law. Certain violations of this Code may require the Company to refer the matter to the appropriate governmental or regulatory authorities for investigation or prosecution. Moreover, any manager

¹ Anonymous reports generally are not permitted in countries in the European Union (EU) in which the Company conducts operations. For employees located in the EU, you must identify yourself when making a report, unless you are reporting a criminal activity or a concern or complaint regarding accounting or auditing matters. If anonymous reports are made contrary to local laws, the Company may not be able to adequately investigate or address the matter.

who directs or approves of any conduct in violation of this Code, or who has knowledge of such conduct and does not immediately report it, also will be subject to disciplinary action, up to and including discharge.

Dissemination and Amendment

This Code shall be distributed to new employees joining the Company and shall be posted on the Company's website.

The Company reserves the right to amend, alter or terminate this Code at any time for any reason. The most current version of this Code can be obtained from Human Resources or the Company's electronic policy database.

Controlling Provisions

If any provision of this Code is inconsistent or conflicts with any employee rules, requirements, policies or procedures (collectively, "Employee Rules") or any applicable laws, statutes, rules and regulations (collectively, "Local Laws") in effect in a particular jurisdiction, then the Employee Rule or Local Law will supersede such provision. This Code is also subject to the terms of any applicable agreement between the Company and any employee, works council, trade organization or similar employee representative body.

This document is not an employment contract between the Company and any of its employees, officers or directors.

Hotline Dialing Instructions and Local Access Codes (Worldwide)

Hotline calls from outside the United States may require first calling a local access phone number. Below is a list of local access codes by country. After dialing the local access number, you will be prompted to enter in the hotline number of 1-800-826-6762.

(For additional country information, please refer to the website: <http://www.business.att.com/bt/access.jsp>)

Country	AT&T Direct® Access Code	City Code
EUROPE		
Austria	0-800-200-288	Linz Donau 732, Salzburg 662, Vienna 1
Denmark	800-100-10	Not required
France (Hotels-Paris Only)	0-800-99-0111	Lyon 562, Marseille 491, Nice 493, Paris And Paris Region 1, Toulouse 5
France (Telecom Development)	0805-701-288	Lyon 562, Marseille 491, Nice 493, Paris And Paris Region 1, Toulouse 5
France (Telecom)	0-800-99-0011	Lyon 562, Marseille 491, Nice 493, Paris And Paris Region 1, Toulouse 5
Germany	0-800-225-5288	Berlin 30, Cologne 221, Frankfurt 69, 335, Hamburg 40, Munich 89
Italy	800-172-444	Milan 2, Naples 81, Palermo 91, Rome/Vatican City 6, Torino 11
Netherlands	0800-022-9111	Amsterdam 20, Haarlem 23, The Hague 70
Romania (Romtelecom)	Direct access number: 0808-03-4288; 855-874-1532 ¹	
Sweden	020-799-111	Goteborg (Gothenburg) 31, Linkoping 13, Malmo 40, Stockholm 8, Uppsala 18
Switzerland	0-800-890011	Basel 61, Berne 31, Geneve 22, Lausanne 21, Zurich 44
United Kingdom (CandW)	0-500-89-0011	Birmingham 121, Glasgow 141, Leeds 113, London 20, Manchester 161
United Kingdom (British Telecom)	0-800-89-0011	Birmingham 121, Glasgow 141, Leeds 113, London 20, Manchester 161
ISRAEL		
Israel (Barak)	1-80-933-3333	Eilat 8, Haifa 4, Jerusalem 2, Nazareth 4, Tel Aviv 3
Israel (Bezeq)	1-80-949-4949	Eilat 8, Haifa 4, Jerusalem 2, Nazareth 4, Tel Aviv 3
Israel (Golden Lines)	1-80-922-2222	Eilat 8, Haifa 4, Jerusalem 2, Nazareth 4, Tel Aviv 3
ASIA		
China - North, Beijing CNCG	108-888	Beijing (Peking) 10, Guangzhou (Canton) 20, Shanghai 21, Shenzhen 755, Tianjin 22
China, PRC - South, Shanghai (China Telecom)	10-811	Beijing (Peking) 10, Guangzhou (Canton) 20, Shanghai 21, Shenzhen 755, Tianjin 22

Country	AT&T Direct® Access Code	City Code
Japan (KDDI)	00-539-111	Nagoya 52, Osaka (Osaka) 6, Sapporo 11, Tokyo 3, Yokohama 45
Japan (NTT)	0034-811-001	Nagoya 52, Osaka (Osaka) 6, Sapporo 11, Tokyo 3, Yokohama 45
Japan (Softbank Telecom)	00-663-5111	Nagoya 52, Osaka (Osaka) 6, Sapporo 11, Tokyo 3, Yokohama 45
Korea, Republic (Dacom)	00-309-11	Pusan (Busan) 51, Seoul 2, Taegu (Daegu) 53
Korea, Republic (Korea Telecom)	00-729-11	Pusan (Busan) 51, Seoul 2, Taegu (Daegu) 53
Korea, Republic (ONSE)	00-369-11	Pusan (Busan) 51, Seoul 2, Taegu (Daegu) 53
Singapore (SingTel)	800-011-1111	East 629
Singapore (StarHub)	800-001-0001	East 629
Taiwan	00-801-102-880	Kaohsiung 7, Taichung 4, Tainan 6, Taipei 2

¹This is a direct line when calling from Romania. No additional numbers are needed.