

## Table of Contents

<b>Table of Contents</b> .....	<b>1</b>
<b>1 Preamble</b> .....	<b>3</b>
<b>2 Aims and Objectives of the Policy</b> .....	<b>4</b>
<b>3 Intellectual Property Committee</b> .....	<b>5</b>
<b>4 Functions of the IP Committee</b> .....	<b>6</b>
<b>5 General Provisions of the BTU IP Policy</b> .....	<b>6</b>
<b>6 Consultancy</b> .....	<b>9</b>
<b>7 Intellectual Property Assignments and Patent Assignments</b> .....	<b>9</b>
<b>8 Research Financed by Third Parties</b> .....	<b>10</b>
<b>9 Administration of the IP Policy</b> .....	<b>11</b>
<b>10 Disclosure</b> .....	<b>11</b>
<b>11 Guidelines for Invention Disclosure</b> .....	<b>11</b>
<b>12 Responsibilities of the Inventor</b> .....	<b>12</b>
<b>13 Procedures to be followed for IP Protection Applications</b> .....	<b>12</b>
<b>14 Submission of a Patent Application or an Application for Other Protection</b> .....	<b>14</b>
<b>15 Commercialisation</b> .....	<b>15</b>
<b>16 Establishment of Research and Development Fund</b> .....	<b>16</b>
<b>17 General Principles on Division of Incomes</b> .....	<b>16</b>
<b>17.1 Distribution of non-equity royalty/net income</b> .....	<b>16</b>
<b>17.2 Distribution of Equity</b> .....	<b>16</b>
<b>18 Intellectual Property Created Outside BTU Employment</b> .....	<b>17</b>
<b>19 Publication of Research Results</b> .....	<b>17</b>
<b>20 Arbitration</b> .....	<b>17</b>
<b>21 Conflict of Interest Relating Specifically to External or Consultancy Agreements</b> .....	<b>18</b>
<b>22 Organisations and Companies Collaborating with BTU on Research Projects</b> .....	<b>18</b>
<b>23 Monitoring and Evaluation of the Policy</b> .....	<b>18</b>

<b>24</b>	<b>Annex I: Definitions</b> .....	<b>19</b>
24.1	Confidential Information and Know-How .....	19
<b>25</b>	<b>Annex II</b> .....	<b>25</b>
<b>26</b>	<b>Annex III</b> .....	<b>28</b>
<b>27</b>	<b>Annex IV Invention declaration form</b> .....	<b>31</b>
<b>28</b>	<b>Annex V</b> .....	<b>36</b>
<b>29</b>	<b>Annex VI: Non-disclosure agreement</b> .....	<b>38</b>

## 1 Preamble

Intellectual Property (IP) is an area of core importance in the academic environment of the Bolgatanga Technical University (BTU). The purpose of defining an IP policy is to encourage the generation of IP by staff, Students, and other relevant parties (together referred to as “personnel”). This Policy is intended to provide support and guidance regarding commercial exploitation, ownership and income from IP and the use of BTU facilities and resources to ensure that the development of IP is mutually beneficial to personnel and BTU.

The University recognises and encourages the principle that IP developed at BTU should be used for the most significant public benefit. Commercialisation is often the most efficient means of promoting the widest possible dissemination and use of BTU IP. In such circumstances, it is appropriate and desirable for both BTU and the originator of the IP to benefit from the commercial exploitation of IP produced at BTU.

In particular, this document sets out the principles and rules that govern the creation, ownership and commercialisation of IP developed by personnel participating in programmes carried out using BTU facilities, know-how, confidential information and/or BTU IP.

BTU has a strong interest in promoting the generation of IP in the context of the Government’s drive to create a knowledge-based economy, increase the number of patents coming out of third-level institutions, and transfer that technology into viable commercial entities.

For the avoidance of doubt, this IP policy and any subsequent amendments made to this IP policy is the agreed protocol or IP policy referenced in:

- a) the staff contract of employment;
- b) any document engaging any other relevant party;
- c) the student handbook and
- d) any acceptance form or intellectual property assignment agreement signed by staff and/or students and/or other relevant parties.

The Policy was developed with due consonance to Ghana’s Constitution, the Patent Act 2005 (Act 657), the Copyright Act 2003 (Act 690), Data Protection Act 2012 (Act 843), Trademark Act 2004 (Act 664), Industrial Designs Act 2003 (660), Protection Against Unfair Competition

Act 2000 (Act 589) and existing governance documents of the University. The drafting of the Policy also considered similar policies of peer institutions here in Ghana and elsewhere in the world.

Reference was made to several documents, including WIPO's Handbook on Intellectual Property, WIPO's Guidelines on Developing Intellectual Property for Universities and Research and Development Organisations, the National Intellectual Property Policy and Strategy for Ghana, and existing Intellectual Property policies of other Universities.

## **2 Aim and Objectives of the Policy**

The aim of this IP policy is to provide a consistent framework within which BTU IP is developed and managed for the benefit of BTU, the originator, and the public good.

The objectives of the IP policy are to:

- a. create an environment that encourages the generation of new knowledge by BTU departments and personnel;
- b. encourage the recognition and identification of IP within BTU and promote an entrepreneurial culture among personnel, that fosters the development of potentially commercial IP arising from their research at BTU;
- c. provide an efficient process by which the commercial potential of IP can be assessed by BTU and its advisors and to ensure that the process of IP evaluation, protection, and commercialisation are carried out promptly;
- d. motivate the development and exploitation of IP by providing administrative assistance to originators and to provide appropriate rewards to both originators and BTU;
- e. provide support and supervision for the creation of economic structures through which BTU IP is developed and used commercially;
- f. maximise the earnings potential from commercialisation and utilise financial and other returns to advance and encourage research in BTU;
- g. promote strategies of commercialisation and technology transfer that provide the greatest benefit to the Ghanaian economy;

- h. encourage public use and commercialisation of BTU IP by facilitating its transfer from BTU to industry and business;
- i. continue to recognise the traditional BTU practices concerning education, publication, and scholarly works;
- j. ensure that the financial returns from the development of BTU IP do not distort decisions and operations of BTU in a manner contrary to the mission of BTU;
- k. to give due regard to the non-financial benefits (e.g. non-cash consideration, the benefit of strategic relationships between BTU and third parties, access to IP and confidential information), that will accrue to BTU and to the originators of IP in pursuing the goals of this IP policy;
- l. to develop and continually improve a long-term strategy that enables the development of IP, related commercialisation and technology transfer, together with maintenance of high standards of education and
- m. to foster the general awareness of personnel of this Policy through dissemination and information campaigns and to provide specific training to research active personnel.

### **3 Intellectual Property Committee**

- 1. A Committee (IP Committee) shall be set up in BTU after the adoption of this IP policy and shall consist of the following members:
  - a. Chair – Vice-Chancellor;
  - b. Deans of Faculties/Schools;
  - c. Director of Research and Innovation;
  - d. Head of the applicant's department (In attendance);
  - e. One representative from Finance Department;
  - f. One representative from Registry as secretary to the committee;

- g. One external (not in the employment of the University) expert in the area of technology (appointed in consultation with inventor), as required and
  - h. One other professional advisor as may be required.
2. The IP Committee members will be required to sign a confidentiality agreement regarding proposals submitted and the IP produced at BTU and presented to the IP committee. This will ensure that new ideas are protected.
  3. The relevant BTU Project Manager/BTU Academic Supervisor may be required to put forward a proposal to the IP Committee regarding the IP on a project and may be requested to attend a committee meeting, where appropriate.
  4. Members of the IP committee will be required to declare their interest in a proposal if such exists and absent themselves from any discussion pertaining to it.
  5. The Directorate of Research, Innovation and Development is responsible for each of the activities set out in this IP policy, including (without limitation) putting the decisions of the IP committee into effect.

#### **4 Functions of the IP Committee**

1. Processing of IP applications.
2. Determining the commercial value of IP and/or inventions.
3. Determining IP agreements with the industry regarding collaborative research projects.
4. Facilitating a fair and equitable return to those involved in commercialisation of their research/work.
5. Nominating negotiators with third parties and ensuring a reasonable financial return to the personnel involved (where appropriate) and to BTU.
6. Recommend amendments to the IP policy to suit changing environment.

#### **5 General Provisions of the BTU IP Policy**

1. As a general rule, any IP rights in or to any material/works created by personnel in the course of their employment or education by BTU or concerning work carried out for BTU is the property of and vests solely and absolutely in BTU or such companies or

organisations as BTU may nominate for such purposes. Such material/works include, but are not limited to any of the under-listed:

- a. copyright (including rights in computer software and moral rights);
  - b. patents;
  - c. design rights;
  - d. trademark rights;
  - e. brand rights;
  - f. database rights;
  - g. know-how;
  - h. trade secrets;
  - i. confidential information rights in design;
  - j. semi-conductor topography rights and
  - k. other intellectual property rights or other property rights, (whether vested, contingent or future anywhere in the world).
2. This applies to any IP in materials that are developed by Personnel which they cause to come into existence:
- a. during the working or teaching hours of BTU; or
  - b. when using BTU's equipment, supplies, facilities or assets; or
  - c. using BTU's confidential information, trade secrets, know-how, or any BTU IP; or
  - d. in relation to any work performed for BTU (including pursuant to any third-party funded research programmes).
3. At BTU's reasonable cost, personnel also agree at any later time to execute any documentation or otherwise provide assistance to BTU to secure, protect, perfect or enforce any of BTU's rights, title and interests in and to BTU IP.

4. This IP Policy applies to IP that is owned by BTU, including (without limitation) for any of the reasons outlined below:
  - a. it is developed by Personnel in the course of their normal or specifically assigned duties either when IP could be reasonably expected to result from the carrying out of those duties and/or, at the time the IP was developed, there was a special obligation on the relevant personnel to further the interest of BTU;
  - b. under the Copyright Act, 2005 (Act 690), BTU is the first owner of any copyright in work created by employees in the course of their employment unless precluded by a prior agreement between BTU and a third party (as is provided in **Section 8** of this IP policy);
  - c. the IP arises out of funded or non-funded research where such research has, in the opinion of BTU, made use of the equipment, facilities, BTU assets and/or other resources of BTU (except where ownership of such IP was provided for in a prior agreement between BTU and third parties);
  - d. if it is a condition of the appointment of a student to perform research that BTU should have ownership of the IP arising from the research performed by such student and
  - e. if it is a condition of any other relevant party's appointment to conduct research, BTU should have ownership of the IP arising from the research performed by such other relevant party.

5. IP arising from research or other work sponsored by an external organisation shall be subject to the IP provisions that are stipulated in the related agreement between BTU and the external organisation (external agreement). Where an external agreement requires all new IP rights to be assigned to a private company, the entry-level (or “background”) BTU IP should be defined so that it is not inadvertently assigned to the private company as part of the new IP (also described as “foreground IP” or “results”) but is retained as BTU IP. All external agreements should be reviewed by a legal person representing BTU. For the avoidance of doubt, where IP is generated from research that is 100% funded by monies provided directly by the State, or by any not-for-profit financial instrument which has been established by an organisation or individual, and awarded through a public service organisation charged with the granting and dissemination of research funds, this IP will be exclusively and absolutely owned by BTU. The IP Policy also extends to other relevant parties such as non-employees who participate in research projects at the BTU, including visiting academics, industrial personnel etc. unless a specific waiver has been approved. Other relevant parties at BTU who have a prior existing and conflicting intellectual property agreement or arrangement with another employer or third party must enter into an agreement with BTU (and their employer or relevant third party) to abide by the conditions of this IP policy in the course of their activities in BTU.
6. To enable the achievement of the aim and objectives of this IP policy, the Directorate of Research, Innovation and Development will, through the dissemination of information and the holding of general information sessions for personnel, foster the general awareness of personnel of this Policy. In addition, the Directorate of Research, Innovation and Development shall provide specific training on this IP policy and its day-to-day application and relevance to research active personnel.

## **6 Consultancy**

Staff are permitted to engage in IP consultancy projects for third parties subject to compliance with applicable BTU policies in force from time to time and subject to approval by the Vice-Chancellor of BTU. Any such approved consultancies must be disclosed to the IP Committee.

## **7 Intellectual Property Assignments and Patent Assignments**

1. For the avoidance of doubt, the provisions herein apply to all the faculties/schools, departments, centres, institutes, and personnel conducting research or other intellectual

activity using BTU assets and BTU's supplies, facilities, confidential information, trade secrets or existing BTU IP. As a condition of:

- a. employment or engagement by BTU as staff;
  - b. admission by BTU as a student; or
  - c. engagement by BTU as any other relevant party.
2. Each student, staff member and other relevant party (as the case may be) shall comply with this IP policy and shall agree to assign to BTU (or a person or company nominated by BTU or an agency that provided the funding for the relevant research) any and all IP in and to inventions discovered and produced or otherwise developed while the person was a personnel as the case may be.
3. When required by the specific circumstances of a project, and on the request of the IP Committee, a member of personnel will agree:
- a. to sign an Intellectual Property assignment agreement (see Annex II);
  - b. to execute such documents of assignment or other documentation required to assign or transfer IP and any moral rights to ensure, protect, perfect and enforce BTU's rights, title and interest in BTU IP;
  - c. to do anything that may reasonably be required to assist any assignee of any patent application or other IP to obtain, protect and maintain its rights, title and interest; and
  - d. shall use all reasonable endeavours to do or procure all such further acts and things and execute or procure the execution of all such other documents as may be reasonably required from time to time to give each party hereto, the full benefit of the provisions of this IP policy.

## **8 Research Financed by Third Parties**

Any research which any third party agency partly or wholly finances shall be subject to the specific provisions of the grant or contract covering that research.

In the event of any inconsistency between this IP policy and the terms of any such grant or contract, the provisions of the said grant or contract shall prevail provided that the Directorate of Research, Innovation and Development has reviewed the IP clauses in such grant or contract, having sought the needed external advice from an appropriate source. In the case of a contract, such contract has been executed adequately by BTU.

## **9 Administration of the IP Policy**

At BTU, the office responsible for supporting the development and commercialisation of BTU IP is the Directorate of Research, Innovation and Development. All BTU IP created by personnel must be disclosed following the procedures laid down in this IP policy.

## **10 Disclosure**

1. It shall be a condition of employment or engagement by BTU as Staff; admission by BTU as a student; or engagement by BTU as other relevant party, that the results of all research or projects should be fully, promptly and completely disclosed to BTU.
2. To enable BTU to ensure that it fulfils its obligations to organisations such as GetFund, MOE, IDRC, DANIDA, DFID, USAID, companies and other third parties in both the public and private sectors, who are funding research at BTU, all personnel must disclose any IP arising from such research to BTU through the Directorate of Research, Innovation and Development as soon as possible after such IP is apparent.
3. The IP should be kept confidential for a period of time until a timely evaluation of the case assessment (including, without limitation, patentability) has taken place.
4. Confidentiality agreements and/or non-disclosure agreements should be used where appropriate.

## **11 Guidelines for Invention Disclosure**

1. An inventor is required to disclose his invention using the Invention Disclosure Form.
2. The description of the invention should be accurate, clear and complete such that a person skilled in the art can understand and reproduce the invention given the disclosed information.
3. The Invention Disclosure Form must be approved by the appropriate Heads of Departments of the inventor(s).

4. The disclosure form must be submitted to the Directorate of Research, Innovation and Development (DRID).
5. Inventors are required to disclose inventions that do not satisfy **Section 11(2)** to the DRID. This is to allow for their protection with other intellectual property tools.
6. An inventor must avoid premature disclosure (release information on the invention through abstracts, publications, poster sessions, etc., to third parties) in a manner that may compromise its patentability prior to the filing of a patent application. However, an inventor may disclose his research findings in fulfilment of research contracts/agreements under the terms of a Non-Disclosure Agreement or a Confidentiality Agreement.

## **12 Responsibilities of the Inventor**

1. Promptly and thoroughly disclose an invention to DRID.
2. Maintain accurate and reliable records of all documents necessary for ascertaining the originality or creation of the invention and for the protection of one's intellectual property.
3. Offer assistance as may be required, prior to, during and after the IP protection and technology transfer process. This includes but not limited to providing technical input, educating potential inventors, partners and potential licensees about your invention.
4. Disclose promptly all potential conflicts of interest to the DRID.

## **13 Procedures to be followed for IP Protection Applications**

1. An inventor(s) shall complete and submit an Invention Declaration Form (see Annex IV) regarding any discovery or invention made that might be useful, patentable or otherwise protectable to the DRID.
2. Any IP reported in an Invention Declaration Form shall be submitted to the IP committee for assessment under the guidelines of the IP policy and for recommendations to BTU regarding the patentability and/or potential commercialisation.
3. The IP Committee may recommend that other suitably qualified advisors or external consultants be engaged to provide advice on the assessment of the IP.

4. The criteria to assess the commercial value of the IP should include (without limitation):
  - a. assessment that the IP does not cater for a one-off need and that it has a potential long-term benefit;
  - b. technical and commercial feasibility;
  - c. proof of concept (business plan, access to finance etc.);
  - d. potential for sale or licensing of technology or consultancy;
  - e. demonstrates a competitive advantage based on differentiated or innovative product or service;
  - f. development stage of the subject matter;
  - g. commercial focus and profit motive;
  - h. study of comparable existing subject matter, licences and commercialisation practices;
  - i. proximity to market;
  - j. market valuations – in other words, ‘what is the current market willing to pay?’
  - k. barriers to entry into markets;
  - l. estimated projected sales based on market research;
  - m. third party assistance, including for example, input from industry and state agencies and
  - n. estimated cost of the patent process.
5. While the criteria listed above are not exhaustive, it guides persons submitting an application as well as to those determining the commercial value. As it is a complex decision, the IP Committee may refer to other expertise (internal or external) where necessary and further criteria may be applied.

6. The IP Committee will make a decision within a reasonable time (e.g. 60/90 days, but in any event no longer than one year from date of report) of receipt of the application, where practicable, and the originator of the IP will be notified in writing of the decision made.
7. If the evaluation is rejected by the IP committee, the IP Committee may decide in appropriate circumstances, to offer the opportunity to the originator of the IP to pursue exploitation independently if appropriate under agreed written terms. BTU shall have no rights if it subsequently proves successful, subject to any agreed terms.

#### **14 Submission of a Patent Application or an Application for Other Protection**

1. BTU shall have the right, but not the obligation, either directly or through an outside agent, to seek patent or other IP protection and undertake efforts to introduce the invention into public use.
2. Where the IP Committee proceeds with a patent application, the originator of the IP is required to cooperate in every reasonable way, execute all necessary documents, and assist the IP committee in completing the patent application form. The application shall remain confidential until the process is complete. Confidentiality agreements will be used where appropriate.
3. Commercialisation activities should recognise specific terms and conditions in appropriate funding contracts including any external agreements.
4. BTU shall pay the cost of the submission of the application. Any expenses incurred will be reimbursed to BTU prior to the distribution of any royalty income (if any) from the IP.
5. The originator of the IP and BTU shall take all reasonable precautions to protect the integrity and confidentiality of the IP in question. The originator of the IP should be aware that publication prior to filing patent applications may prevent the granting of certain patents.
6. BTU may decide at any stage to withdraw from the process of exploiting a particular piece of IP. This may arise where:

- a. concerns exist regarding the technical or commercial feasibility of a particular piece of IP,
  - b. costs of exploiting the IP are excessive, or
  - c. external sponsorship of the process is no longer available.
7. The originator of the IP shall be notified in writing of the intention of BTU to withdraw from the process and the withdrawal will apply with immediate effect.
  8. At BTU's sole discretion, the IP may be assigned or licensed to the originator in appropriate circumstances, offering the opportunity to the originator of the IP to pursue exploitation independently.
  9. No patent application, assignment, licensing or other agreement may be entered into or considered valid with respect to BTU IP except when properly and lawfully executed by BTU.

## **15 Commercialisation**

1. The Directorate of Research, Innovation and Development (DRID) shall assist, provide advice, or procure the provision of outside professional advice in relation to the various options for commercialisation and technology transfer that may be appropriate in order to best meet the aim of this IP Policy, including:
  - a. licensing the IP to a third party for a fixed sum or a royalty related to future sales;
  - b. developing the commercial potential of the IP through the university's business development centre;
  - c. developing the commercial potential of the IP through a joint venture with a third party.
2. Any other arrangement that may be considered appropriate in providing this advice and assistance, the DRID shall give due consideration to the retention of the right to use and access know-how and research materials for the purpose of continuing and further research.

## **16 Establishment of Research and Development Fund**

1. BTU shall establish a Research and Development Fund (RDF) to be used to promote and enhance research and development activity and facilities within BTU as determined by BTU from time to time.
2. The Research and Development Fund (RDF) will be used to assess, protect and facilitate the commercialisation of BTU IP through the pursuit of patent or other protection, the granting of licenses, the development of campus companies and/or otherwise to ensure maximum benefit to the University and the public good, as determined by the IP Committee in line with the IP policy and approval of the University.
3. Allocation and application of the RDF in deciding on its expenditure, shall give due cognisance to the research areas/centres that secured funding or contributed most to the RDF.

## **17 General Principles on Division of Incomes**

### **17.1 Distribution of non-equity royalty/net income**

The University shall maintain Non-equity royalties or income from the commercialisation of an IP or technology until all direct and indirect costs related to the protection and / or commercialisation of the Invention is reimbursed. Subsequently, the Net royalty / Net income would be distributed as follows;

1. The inventor will receive forty percent (40%) of Net Royalties. Net Royalty / Net Income will be distributed according to the percentage of contribution to the invention by each inventor where there is more than one inventor.
2. The remaining sixty percent (60%) would be allocated as follows:
  - a. Twenty-five percent (25%) to the University;
  - b. Fifteen percent (15%) for the support of research grants or fellowships;
  - c. Ten percent (10%) to the Inventor's College and its constituents;
  - d. Ten percent (10%) to an IP Fund to be established in support of IP protection, marketing and commercialisation activities, etc.

Inventors/Creators are personally responsible for complying with any tax and other obligations associated with the receipt of their share of Net Royalties or Net Income.

### **17.2 Distribution of Equity**

The University may accept equity interests in lieu of monetary payments from a company following the utilisation of IP owned by the University by the company. Upon receipt of

equity, the University would allocate a share of the equity interest equal in value to the direct and indirect expenses borne by it in securing protection and in commercialising the IP in question. The University will allocate the equity interest, dividend income or proceeds from the sale of the equity in the same manner as stipulated in the allocation of non-equity revenue in sub-section 17.1.

### **18 Intellectual Property Created Outside BTU Employment**

BTU shall have no interest in any inventions or other IP created by Personnel entirely on their own time without the use of any BTU Assets. The burden of prove shall be on Personnel asserting their rights under this paragraph to prove to the satisfaction of BTU that they in fact created the relevant invention or IP on their own time without the use of any BTU assets. Personnel must not infringe on the Intellectual Property Rights of any third parties.

### **19 Publication of Research Results**

1. It is BTU's Policy to encourage staff and students to place the results of their research in the public domain either through publication in referenced journals or presentation at conferences. This is a vital factor for academic recognition. It is mandatory that such disclosure is not in violation of the terms of any agreement that BTU has entered into with a sponsor or other third party.
2. It must be recognised that premature publication or disclosure except on a confidential basis may make it impossible to obtain valid patent protection. Where possible the delay in publication to enable a patent application to be filed should be for a period of not more than 90 days from the date when this IP is ready for publication. The placing of a thesis in the BTU library without ensuring that accessibility is restricted constitutes publication.

### **20 Arbitration**

Any dispute between BTU and the originator of IP shall be resolved through laid down rules and procedures as stipulated in BTU's governance documents including the applicable Statutes and Ghana's laws, enforceable now and hereafter. Expenses incurred in arbitration shall be deducted from royalty income before distribution.

## **21 Conflict of Interest Relating Specifically to External or Consultancy Agreements**

BTU encourages full disclosure of potential areas of conflict and open discussion at an early stage. BTU shall endeavour to alert staff, students and other relevant parties to recognise where conflicts may occur and to manage and resolve these conflicts.

## **22 Organisations and Companies Collaborating with BTU on Research Projects**

1. As a public organisation, BTU has an obligation to ensure the maximum public benefit from the exploitation of IP created from both publicly funded research and collaborative co-funded research. This is usually best maximised when IP is commercially exploited.
2. The BTU IP Committee shall conduct a commercial evaluation on the IP created/to be created in a research project and will seek information from the collaborating organisation on how it intends to commercialise the IP, and also determine the IP ownership rights they require from the project.
3. The evaluation to determine the commercial value and IP ownership rights will include an examination of the criteria listed in **Section 11** of this Policy. All such information requested and provided will be treated in strict confidence.
4. Upon the above assessment, the IP Committee shall decide on the IP ownership rights BTU require and shall agree the sale/assignment, licensing (exclusive or non-exclusive), or joint venture agreements or otherwise with the collaborating company to ensure maximum commercial benefits.
5. A legal agreement will be executed between the parties, setting out the rights, entitlements and obligations of each party prior to the commencement of work on the project.

## **23 Monitoring and Evaluation of the Policy**

1. This IP policy will be monitored by the DRID. The IP policy and related research, commercialisation and technology transfer will be monitored and evaluated on an annual basis and may be amended by BTU from time to time.
2. All amendments to this IP policy shall be approved by Academic Board and the BTU Council on the recommendations of IP Committee and such amendments shall be fully valid and effective from the date to be agreed on.

## 24 Annex I: Definitions

The following definitions shall apply for the purposes of this Policy.

Word/Term	Definition / Meaning
Assignment Agreement	An agreement between two parties in which one party agrees to assign and transfer rights, title and interest in an Intellectual Property to another party.
Confidential Information and Know-How	Protection for confidential information and know-how arises from the law of confidentiality. The confidential information may be know-how associated with a Patent or a Patent Application, or material in existence before, for example, a Patent Application is filed, or material already protected by another form of intellectual property, for example, copyright.
Conflict of Interest	An overlap between an individual's professional obligations and his or her private interests. Such conflicts may not be unethical and do not constitute or imply any wrong-doing, but they may lead to actual misconduct when considerations of personal gain, influence or compromise an individual's judgment and actions in the performance of his or her primary responsibilities.
Consultancy	Professional advice offered by an expert in a particular discipline.
Copyright	(Copyrightable Works) Under Ghana's copyright law, copyright subsists in "original works of authorship" which have been fixed in any tangible medium of expression from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. These works include: a) Literary works <i>such as books, journal articles, poems, manuals, memoranda, tests, computer programs, instructional material, databases, bibliographies</i> ; b) Musical works including any accompanying words; c) Dramatic works, including any accompanying music; d) Pantomimes and choreographic works (if fixed, as in notation or videotape); e) Pictorial, graphic and

Creator	A person, who discovers, invents, develops, designs, breeds, creates, authors or expresses an Intellectual Property.
Disclosure	Any non-confidential information about an invention or an idea made available to the public. It includes abstracts, journal articles, conference papers, printed and online publications, publicly available abstracts of funded grant proposals, open thesis defenses, presentations, poster sessions, etc.
Domain Names	A domain name is a unique address on the Internet. There are various generic TLDs, such as .com and .biz, as well as, ccTLDs (Country code).
DRID	Directorate of Research, Innovation and Development. This is the office responsible for the administration and management of the University's Intellectual Property and technology transfer processes.
Employee	A person who has a contract or an employment relationship with the University. It includes professional, academic, administrative, assistantships, full time, part time, paid, unpaid, support staff, students, etc.
Equity	The value of shares issued by a company.

Industrial Design and Unregistered Design Right	<p>Designs cover the appearance of a product, either the whole or a part, resulting from such features as lines, contours, colours, shape, texture or materials of the product itself or its ornamentation. The term product embraces any industrial or handicraft item. The term product has a wide meaning that includes packaging, get-up and graphic symbols (e.g. Desktop icons) etc.</p> <p>Registration is not available for features of a design which are dictated by the technical function of the product. The new law contains a must fit exclusion under which it is not possible to obtain registration for features which are dictated by the need for the product to fit another. However, modular products, i.e, made up of several components which can be fitted together in different ways, are protectable.</p> <p>Design Registration gives the owner the right, for a limited period (up to 25 years, with renewals every 5 years), to stop others from making, using or selling a product to which the design has been applied, or in which it is incorporated.</p>
Intellectual Property (IP)	<p>The legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields. They include Inventions, trade secrets, copyrights, scientific works, industrial designs, trademarks, commercial names and designations, know how, Confidential Information, Tangible Research Property as well as other materials protected by law or specified by the University from time to time.</p>
Intellectual Property Committee (IPC)	<p>A Committee charged to perform specific functions with respect to Intellectual Property.</p>
Intellectual Property Right(s)	<p>An exclusive right granted to a person over the use of his/ her creation for a specified period.</p>

Invention	Refers to any new and useful process, machine, manufacture, or composition of matter (e.g., life forms), or any new and useful improvement thereof, relating to creative works, research material and trade secrets. An invention can be made solely or jointly with others as co-inventors. To be recognized legally, a co-inventor must have conceived of an essential element of an invention or contributed substantially to the general concept, i.e. participated in the “inventive step”.
Inventor	The Creator of Inventions / technological advancement.
Net Royalty/Net Income	All consideration, including but not limited to cash, royalties, equity and options received by the University from the sale, licensing, or other commercial transactions of an IP less all costs associated with the protection, licensing, distribution or commercial development of the particular Intellectual Property.
Non-equity royalties/incomes	Monetary income or revenue from commercialisation.
Other forms of Intellectual Property	Other forms of intellectual property include, but are limited to, database right for certain types of databases (Patent Act, 2003); protection for semi-conductor topographies; plant breeders’ rights in certain plant varieties; and protection against unfair competition under “passing off” law.
Patent	A Patent grants an inventor the right to exclude all others from making, using, or selling the invention within a territory for a specified period of time. In Ghana, the period of protection is 20 years. When a Patent application is filed, it is reviewed to ascertain if the invention is new, useful and non-obvious.
Personnel	Staff, Students, and other relevant parties (together referred to as “personnel”).
Proprietary Information	Sensitive non-public information which offers certain competitive advantage to an organisation. It includes formulas, trade secrets, software programmes, etc.

Student	A part-time or full-time Student enrolled in an undergraduate or post graduate programme at the University.
Tangible Research Property	This includes biological materials such as cell lines, plasmids, hybridomas, monoclonal antibodies and plant varieties; computer software, data bases, integrated circuit chips, prototype devices and equipment, circuit diagrams: and analytical procedures and laboratory methods, whether or not intellectual property protection is available through Patents and/or copyright or otherwise.
University	Refers to the Bolgatanga Technical University and all affiliated institutions or organizations controlled by the University and / or governed by the University.
University Designated Signatory	A person authorized by the University to execute a binding document on its behalf.
Bolgatanga Technical University Appeals Board	The Appeals Board charged to hear and determine on appeal matters at the University
Visitor	A person who is neither a Student nor an Employee of the University who engages in work at the University. This includes researchers, visiting professors, adjunct professors, volunteers, etc.
WIPO	World Intellectual Property Organization

The IP Policy is applicable to BTU Intellectual Property that is owned by the BTU for any of the reasons outlined below:

1. It is developed by BTU Personnel in the course of their normal or specifically assigned duties either when intellectual property could be reasonably expected to result from the carrying out of those duties and/or, at the time the intellectual property was developed, there was a special obligation on the relevant BTU personnel to further the interest of BTU.

2. The intellectual property arises out of funded or non-funded research where such research has, in the opinion of BTU, made use of the equipment, facilities, BTU assets and other resources of the BTU unless such action was precluded by prior agreement between the BTU and third parties.
3. If it is a condition of a research contract with a third party that the BTU should have ownership of the intellectual property arising from the contract.

**25 Annex II****Intellectual property assignment agreement for staff, Students and other relevant parties**

*Bolgatanga Technical University (BTU)*

*Intellectual Property Assignment Agreement for Staff, Students and Other Relevant Parties*

Research Project(s) Title: \_\_\_\_\_ (the “Project(s)”)

Research Project(s) Number: \_\_\_\_\_

I understand that, consistent with applicable laws and regulations, BTU is governed in the handling of intellectual property by its official IP Policy entitled *Intellectual Property Rights and Commercialisation Policy*, (a copy of which I have received), and I agree to abide by the terms and conditions of this IP Policy in the course of my BTU activities and in the work that I carry out on the Project.

As a general rule (and subject to the exceptions set out in this IP Policy) any intellectual property rights in any material, (including any copyright (including rights in computer software and moral rights), patent, design right, trademark rights, brand rights, database rights, know how, trade secrets, confidential information rights in design, semiconductor topography rights or other intellectual property rights or other property rights, whether vested, contingent or future anywhere in the world), created by me in the course of my work with BTU (and in particular in the course of my work on the Project) are the property of and vest solely and absolutely in BTU (“BTU IP”).

Pursuant to the IP Policy, and in consideration of my participation in projects (and the Project(s) administered by BTU, access to or use of facilities provided by BTU and/or other consideration, I hereby agree as follows:

1. I will disclose to BTU all potentially patentable inventions and other BTU IP conceived or first reduced to practice in whole or in part in the course of my BTU responsibilities, my participation in the Project(s) at BTU or with more than incidental use of BTU resources. I further assign to BTU all my right, title and interest in such patentable inventions and other BTU IP created in connection with BTU and/or the Project(s) and

to execute and deliver all documents and do any and all such things necessary and proper on my part to effect such assignment. Such assignment is not inconsistent with the terms of my continuing employment outside of BTU (if any) or with any other agreement I have entered into.

3. I will not use any information defined as confidential or proprietary by any non-BTU employer (if any) in the course of my BTU responsibilities and I will not do consulting or research work for any non-BTU employer (unless such work is approved of in writing by BTU).
4. I will not enter into any agreement creating copyright or patent obligations in conflict with this Agreement. I hereby waive any moral rights to which I may be entitled under any legislation now existing or in future enacted in any part of the world and for the avoidance of doubt this waiver shall extend to the licensees and successors in title to the copyright in the BTU IP and the Project(s).
5. This Agreement is effective on date of my BTU hire, enrolment or participation in projects administered by BTU, and is binding on me, my estate, heirs and assigns.
6. I hereby agree and acknowledge that in respect of the Project and in respect of my assignment of IP to BTU in this Agreement, my full and final entitlement to payment, royalty or other income arising therefrom is set out in the Schedule to this Agreement and I further agree and acknowledge that I shall have no other entitlement or claim against BTU or any party to whom BTU assigns or licences this IP in respect of payment, royalty or other income arising therefrom.

Signed this ----- day of -----, 20.....

-----

Signature

-----

Printed or Typed Name

-----  
BTU title

-----  
BTU Department

**[Schedule]**

[Insert details of payment, royalty or other income

OR

I agree and acknowledge that I have no right to any payment, royalty or other income in respect of the Project and in respect of my assignment of IP to BTU in this Agreement.]

**26 Annex III****Intellectual property assignment agreement for staff, Students and other relevant parties who have a prior existing and/or conflicting intellectual property agreement or arrangement with another employer or a third party**

*Bolgatanga Technical University (BTU)*

*Intellectual Property Assignment Agreement for Staff, Students and Other Relevant Parties who have a prior existing and/or conflicting Intellectual Property Agreement or arrangement with another employer or a third party*

I understand that, consistent with applicable laws and regulations, BTU is governed in the handling of intellectual property by its official IP Policy entitled *Intellectual Property Rights and Commercialisation Policy*, (a copy of which I have received), and I agree to abide by the terms and conditions of this IP Policy in the course of my BTU activities.

As a general rule (and subject to the exceptions set out in the IP Policy) any intellectual property rights in any material, (including any copyright (including rights in computer software and moral rights), patent, design right, trademark rights, brand rights, database rights, know how, trade secrets, confidential information rights in design, semiconductor topography rights or other intellectual property rights or other property rights, whether vested, contingent or future anywhere in the world), created by you in the course of your work with BTU are the property of and vest solely and absolutely in BTU (“BTU IP”).

Pursuant to the IP Policy, and in consideration of my participation in projects administered by BTU, access to or use of facilities provided by BTU and/or other consideration, I hereby agree as follows:

1. I will disclose to BTU all potentially patentable inventions and other BTU Intellectual Property conceived or first reduced to practice in whole or in part in the course of my BTU responsibilities, my participation in research projects at BTU or with more than incidental use of BTU resources. I further assign [jointly] to BTU [and to my non-BTU employer] all my right, title and interest in such patentable inventions and other BTU Intellectual Property created in connection with BTU and to execute and deliver all documents and do any and all such things necessary and proper on my part to effect

such assignment. Such assignment is not inconsistent with the terms of my continuing employment outside of BTU or with any other agreement I have entered into.

2. I will not use any information defined as confidential or proprietary by my non-BTU employer in the course of my BTU responsibilities and I will not do consulting or research work for my non-BTU employer while at any facility owned or leased by BTU.
3. I am free to place my inventions in the public domain as long as in so doing neither I nor BTU violates the terms of any agreements that governed the work done or my agreements with my non-BTU employer.
4. I will not enter into any agreement creating copyright or patent obligations in conflict with this Agreement.
5. This Agreement is effective on date of my BTU hire, enrolment or participation in projects administered by BTU, and is binding on me, my estate, heirs and assigns.
6. [I hereby agree and acknowledge that in respect of the Project and in respect of my assignment of IP to BTU in this Agreement, my full and final entitlement to payment, royalty or other income arising therefrom is set out in the Schedule to this Agreement and I further agree and acknowledge that I shall have no other entitlement or claim against BTU or any party to whom BTU assigns or licences this IP in respect of payment, royalty or other income arising therefrom.]

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

-----

Signature

-----

Print/Type Name

-----

BTU Title

-----

BTU Department

**[Schedule]**

[Insert details of payment, royalty or other income

OR

I agree and acknowledge that I have no right to any payment, royalty or other income in respect of the Project and in respect of my assignment of IP to BTU in this Agreement.]

**27 Annex IV Invention declaration form**

**INVENTION DECLARATION FORM**

1. Title of Invention

--

2. Inventor(s)

Name	Department	Affiliation with Institute (i.e. department, student, staff, visitor)	Address, contact phone no., e-mail	% Contribution to the Invention

3. Contribution to the Invention

**Each contributor/potential inventor should write a paragraph relating to his/her contribution and include a signature and date at the end of the paragraph.**

4. Description of Invention

**(Please highlight the novelty/patentable aspect. Attach extra sheets if necessary, including diagrams where appropriate).**

--

5. Why is this invention more advantageous than present technology?

What is/are its novel or unusual feature(s)?

What problem(s) do(es) it solve?

--

6. Sponsorship

Government Agency & Department	
% Support	
Contract/Grant No.	
Contact Name	
Phone No.	
Address	
Email	

Industry or Other Sponsors	
% Support	
Contract/Grant No.	
Contact Name	
Phone No.	

Address	
Email	

7. Where was the research carried out?

8. What is the potential commercial application of this invention?

9. Was there transfer of any material(s)/information to or from other institution(s) regarding this invention?

**If so, please give details and provide signed agreements where relevant.**

10. Have any third parties any rights to this invention?

**If yes, give names and addresses and a brief explanation of involvement.**

11. Are there any existing or planned disclosures regarding this invention?

**Please give details.**

12. Has any patent application been made?      Yes/No

If yes, give date: \_\_\_\_\_      Application No.: \_\_\_\_\_

Name of Patent Agent: \_\_\_\_\_

Please supply copy of specification.

13. Is a model or prototype available? Has the invention been demonstrated practically?

**I/we acknowledge that I/we have read, understood and agree with this form and the BTU's *Intellectual Property Rights and Commercialisation Policy* and that all the information provided in this disclosure is complete and correct.**

**I/we shall take all reasonable precautions to protect the integrity and confidentiality of the IP in question.**

Inventor: \_\_\_\_\_  
Signature Date

Inventor: \_\_\_\_\_  
Signature Date

Inventor: \_\_\_\_\_  
Signature Date

Inventor: \_\_\_\_\_  
Signature Date

**28 Annex V**

**Data protection and confidentiality undertaking for employees, contractors or Students taking part in a project involving BTU and an outside partner:**

**DATA PROTECTION AND CONFIDENTIALITY UNDERTAKING**

**Name:**

**Employee/Student ID Number (if applicable):**

**Function:**

**Project Title:**

**Project Number:**

In consideration of my appointment by Bolgatanga Technical University(BTU) as a [research fellow/assistant] in the performance of services (“Services”) under the [research agreement] (“Agreement”) between BTU and [NAME OF PARTNER] (“Partner”) and the related opportunity to gain experience in the Services, I hereby acknowledge that I will acquire certain confidential information (“Confidential Information”) relating to BTU’s intellectual property, products and strategies and the intellectual property, products and strategies of the Partner.

I hereby undertake to use the Confidential Information only as may be necessary to perform the Services under the Agreement and not to disclose it to any person other than those who have agreed to the same confidentiality undertaking.

I shall use all precautions necessary to protect the Confidential Information from unauthorized disclosure.

I hereby acknowledge that the Confidential Information is a trade secret of BTU and/or the Partner and that BTU and/or the Partner may claim damages from the undersigned for loss of business in the event of any unauthorized disclosure.

In accordance with the Data Protection Act 2012 (Act 843), I hereby consent to the processing of all personal data that I provide to BTU in connection with the performance of the Services and the Agreement.

This undertaking will continue indefinitely until:

- a. the Confidential Information is published or otherwise made public by BTU; or
- b. I am expressly released from this undertaking by BTU, and is not conditional on my being or remaining an employee or student of BTU.

I hereby acknowledge that this undertaking will also benefit the successors and assigns of BTU together with its related bodies corporate.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Signature of person giving the undertaking

\_\_\_\_\_

Signature of Witness

\_\_\_\_\_

Name of Witness

**29 Annex VI: Non-disclosure agreement****NON-DISCLOSURE AGREEMENT**

**THIS AGREEMENT** is made on \_\_\_\_\_ 20\_\_\_\_.

**PARTIES:**

1. **BOLGATANGA TECHNICAL UNIVERSITY** of ... address... (“BTU”); and
2. \_\_\_\_\_ of \_\_\_\_\_ (“Receiving Party” which expression shall be deemed to include those of its employees or advisors to whom any Confidential Information is to be disclosed).

**BACKGROUND:**

BTU proposes to allow the Receiving Party access to certain information concerning its business to enable the Receiving Party to consider and evaluate a possible commercial relationship between BTU and the Receiving Party (“Project”). The Receiving Party agrees to hold and maintain as confidential all such information provided by BTU for such purposes, on the terms and conditions of this Agreement.

**AGREED TERMS:**

Now it is hereby agreed as follows consideration of BTU disclosing the Confidential Information (as defined below) to the Receiving Party:

**1. Definition**

“Confidential Information” means any and all information in whatever form disclosed by BTU to the Receiving Party whether orally or in writing or whether eye readable, machine readable or in any other form including, without limitation, the form, materials and design of any relevant software (including source and object code) or equipment or any part thereof, the methods of operation and the various applications thereof, processes, formulae, plans, business plans, strategies, data, know-how, ideas, designs, photographs, drawings, specifications, technical literature, information relating to employees, customers, subscribers, Students, post-doctoral Students, contractors

registered with BTU, suppliers or content providers and any other material made available by BTU to the Receiving Party or gained by the visit by the Receiving Party to any establishment of BTU whether before or after this Agreement is entered into, for the purpose of considering, advising in relation to or furthering the Project (and any information derived from such information) and provided that such information is by its nature clearly confidential (whether or not that information is marked or designated as confidential or proprietary).

## 2. **Undertakings**

The Receiving Party hereby undertakes with BTU:

- a. to maintain the Confidential Information in strict confidence;
- b. save as provided in this Agreement, not divulge any of the Confidential Information to any third party or communicate, indicate or suggest to any third party the existence of the Project;
- c. not to make use of the Confidential Information other than for the purpose of the Project;
- d. not at any time contest or dispute the ownership of the Confidential Information;
- e. to restrict access to the Confidential Information only to its own responsible employees or professional advisers who need to have such access for the purposes of the Project and to impose upon such persons obligations of confidentiality equivalent to those contained in this Agreement (and to be responsible for any breach of the terms of this Agreement by its own employees or professional advisers);
- f. not at any time to reverse engineer, decompile or disassemble any software disclosed to it in the course of the Project and not to remove, overprint or deface any notice of copyright, trademark, logo, legend or other notices of ownership from any originals or copies of Confidential Information;

- g. to take or to permit to be taken only such copies of any document or other material (in whatsoever medium) embodying any of the Confidential Information as are reasonably necessary for the purposes of the Project
- h. if the Receiving Party receives any communication requesting disclosure of any of the Confidential Information or indicating an intention to obtain or the fact that there has been obtained any order which would oblige the Receiving Party in law to disclose any of the Confidential Information, the Receiving Party will (immediately and by the fastest means possible, confirmed in writing) communicate to BTU the fact that the communication has been received and all details of the same with a view to the parties co-operating in taking all reasonable and proper steps to ensure so far as is possible that the Confidential Information and the Project are maintained in the strictest confidence; and
- i. to confirm to BTU in writing at any time on request that it has complied and continues to comply with the provisions hereof.

### **3. Acknowledgements and Confirmations**

The Receiving Party hereby further acknowledges and confirms to BTU as follows:

- a. that the Confidential Information is proprietary information of BTU, the disclosure of which could adversely affect the business of BTU and result in economic harm;
- b. that neither BTU nor any of its advisers nor any of its agents, officers, Students, post-doctoral Students, contractors registered with BTU, or employees accept responsibility or liability for or make any representation, statement or expression of opinion or warranty, express or implied, with respect to the accuracy or completeness of the Confidential Information or any oral communication in connection therewith unless and save to the extent that such representation, statement or expression of opinion or warranty is expressly incorporated into any legally binding contract executed between the parties;

- c. that the provisions of this Agreement shall continue in effect notwithstanding any decision by the parties not to proceed with the Project or any return or destruction of the Confidential Information;
- d. that damages alone would not be an adequate remedy for any breach of the provisions of this Agreement and, accordingly, without prejudice to any and all other rights or remedies that BTU may have against the Receiving Party, BTU shall be entitled without proof of special damage to the remedies of temporary or permanent injunction, specific performance and other equitable relief for any threatened or actual breach of the provisions of this Agreement;
- e. that if BTU furnishes or has furnished any confidential information of an affiliated company, the Receiving Party will have the same obligations to such affiliated company with respect to such information as it has to BTU with respect to the Confidential Information as if all references in this Agreement to BTU were references to such affiliated company; and
- f. that the disclosure of the Confidential Information by BTU shall not be deemed to confer any proprietary rights upon the Receiving Party nor shall such disclosure be construed as granting any license of rights of any intellectual property in the Receiving Party.

#### 4. **Exceptions**

The undertakings contained in Clause 2 and the confirmations and acknowledgements contained in Clause 3 shall not apply to Confidential Information which:

- a. is or becomes publicly available, other than as a result of a breach of this Agreement, or becomes lawfully available to the Receiving Party from a third party free from any confidentiality restriction;
- b. was already in the possession of the Receiving Party (as shown by its pre-existing written records) before it was disclosed to the Receiving Party;
- c. was independently developed without access to or use of the Confidential Information;

- d. the Receiving Party is required to disclose:
  - i. by law;
  - ii. by any rule or regulation of any stock exchange;
  - iii. by any Court procedure; or
  - iv. by any rule or regulation of any governmental or other competent authority, provided that, so far as is practicable to do so the Receiving Party shall consult with BTU prior to such disclosure with a view to agreeing its timing and content.

#### **5. Return of Confidential Information**

The Receiving Party hereby undertakes with BTU:

- a. upon demand by BTU or its professional advisers, to either return to such person as they may direct, or destroy, at the option of BTU all the Confidential Information (including all printed and electronic copies thereof) in its possession or control; and
- b. upon the return or destruction (as the case may be) of all the Confidential Information, to provide BTU with a certificate from an authorised officer stating that it has complied with its obligations under this Clause.

#### **6. Indemnity**

The Receiving Party agrees to fully indemnify, keep indemnified and hold harmless BTU against all losses, damages, claims, costs, expenses, liabilities, proceedings and demands which BTU may suffer or incur or which may be made against BTU as a result of any unauthorised disclosure or use of the Confidential Information by the Receiving Party, its employees and/or professional advisers.

#### **7. Term**

- (a) The Receiving Party agrees that its agreements, covenants and undertakings set out in this Agreement will continue in full force and effect and will apply to the

Confidential Information for the period of [3] years from the date of this Agreement.

- (b) The provisions of this Agreement shall continue in force notwithstanding the fact that the Project is not proceeded with or has been terminated and regardless of the reasons for such termination.

**8. General**

- a. The laws of Ghana shall govern this Agreement and any disputes, claims or proceedings arising out of or in any way relating to this Agreement.
- b. The courts of Ghana shall have exclusive jurisdiction for the purpose of any proceedings arising out of or in any way relating to this Agreement.
- c. This Agreement contains the entire agreement between the parties and supersedes all prior oral, or written representations, understandings, or agreements.
- d. Both parties must agree any changes to this Agreement in writing.
- e. Each Clause of this Agreement is severable if deemed void, illegal or unenforceable by a court or competent authority.

**Signed for and on behalf of**

**BTU by its authorised signatory:** \_\_\_\_\_

**Signed for and on behalf of**

**by its authorised signatory:** \_\_\_\_\_

//end