TERMS AND CONDITIONS OF THE NOTES

NON-BINDING ENGLISH LANGUAGE VERSION

1. INTRODUCTION

The Slovak Republic acting through the Ministry of Finance of the Slovak Republic, with registered seat at Štefanovičova 5, P. O. BOX 82, 817 82 Bratislava, Identification No. 00151742 (the "Issuer") represented by the Debt and Liquidity Management Agency (in Slovak: *Agentúra pre riadenie dlhu a likvidity*; "ARDAL") is establishing the issue of EUR 3,000,000,000 (the "Authorised Amount") 3.375 per cent. Notes due 2024 (the "Notes") on the terms specified herein (the "Conditions"). The ISIN in respect of the Notes is SK4120008871 and the designation of the Notes is Štátne dlhopisy 223, abbreviated as ŠD 223.

2. **DEFINITIONS**

In these Conditions, the following expressions have the following meanings:

- "Account" means either (i) an Owner's Account, or (ii) a Holding (Intermediary) Account;
- "Accountholder" means (i) in relation to Notes that are credited to the Owner's Account, the owner of that account; and (ii) in relation to Notes that are credited to the Holding (Intermediary) Account, the person for which that account has been opened by the Central Depository, and which may include Clearstream and/or Euroclear or any Custodian holding any Notes for Clearstream and/or Euroclear, as applicable;
- "Bonds Act" means Act No. 530/1990 Coll. on bonds, as amended;
- "Business Day" means a day on which the TARGET system is open for business except for Saturday, Sunday and any other day which is considered a public holiday under Sections 1 and 2 of Act No. 241/1993 Coll. on state holidays, holidays and memorial days, as amended;
- "Central Depository" means Centrálny depozitár cenných papierov SR, a.s., with its registered seat at ul. 29. augusta 1/A, Bratislava 814 80, Slovak Republic, registered in the Commercial Register maintained by the District Court Bratislava I, Section: Sa, Insert No.: 493/B;
- "Clearstream" means Clearstream Banking, société anonyme;
- "Closure Event" means the Issuer has been notified (i) that the Central Depository or other clearing system in respect of the Notes has been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory, technical maintenance or otherwise) or has announced an intention permanently to cease business or has in fact done so and no successor clearing system is available, (ii) that any form of insolvency proceedings was commenced in respect of (a) Clearstream (if it is a Custodian), (b) Euroclear (if it is a Custodian), and/or (c) any other Custodian holding any Notes on behalf of Clearstream and/or Euroclear (as applicable);
- "Custodian" means a custodian holding any Notes on its Holding (Intermediary) Account on behalf of a Holder;
- "Denomination" means EUR 1.00 (one euro);
- "Early Termination Amount" means in respect of each Note the principal of such Note equal to the Denomination plus interest accrued as calculated in accordance with Condition 5 to but excluding the date on which principal and interest payable in respect of such Note in accordance with the foregoing have been discharged in full by the Issuer;
- "Euroclear" means Euroclear Bank S.A./N.V.;
- "Holder" means in relation to any Notes, the Person or Persons to whose Owner's Account the Notes are credited or who is registered as the owner of the Notes in the internal records of the Custodian holding the relevant Notes in its Holding (Intermediary) Account, if not otherwise proven;

"Holding (Intermediary) Account" means an account in the Central Depository established and existing pursuant to Section 105a of the Securities Act and which account may be created by the Central Depository for any other central depository, foreign central depository or for local or foreign securities brokers or local or foreign banks;

"Interest Payment Date" means each of 15 November 2013, 15 November 2014, 15 November 2015, 15 November 2016, 15 November 2017, 15 November 2018, 15 November 2019, 15 November 2020, 15 November 2021, 15 November 2022, 15 November 2023 and 15 November 2024;

"Issue Date" means 15 November 2012, as the date on which first portion of Note(s) shall be issued;

"Maturity Date" means 15 November 2024;

"Owner's Account" means an account in the Central Depository or maintained on behalf of a Holder with a member of the Central Depository established and existing pursuant to Section 105 of the Securities Act:

"**Person**" means any individual, company, corporation, firm, partnership, joint venture, association, organisation, state or agency of a state or other entity, regardless of whether it has a separate legal personality;

"Rate of Interest" means the 3.375 per cent. per annum; and

"Securities Act" means Act No. 566/2001 Coll. on securities and investment services, as amended.

3. FORM, DENOMINATION AND TITLE

3.1 Form and Registration

The Notes will be issued in book-entry form (in Slovak: zaknihované) as bearer (in Slovak: na doručiteľa) securities.

The Notes will be registered in the Central Depository in accordance with the Securities Act. No global certificates, definitive certificates or coupons will be issued with respect to any Notes under any circumstances.

3.2 Principal of Notes

The principal amount of each Note will be equal to the Denomination. The Issuer declares that it owes the amount equal to the Denomination of the Note to the Holder.

3.3 Title

The Notes will be transferable only by debiting the transferor's Account and crediting the transferee's Account and in accordance with the rules and procedures for the time being of the Central Depository and subject to all applicable laws or by making any appropriate entries in the records of the relevant Custodian in respect of any Notes held on the relevant Holding (Intermediary) Account.

3.4 Direct Rights

The Holders will be recognised as the owners of the Notes under Slovak law. Any rights such Holders may have will be without prejudice to the method of payment of any amounts in respect of the Notes under Condition 7 or such other rights that according to the provisions hereof belong solely to the relevant Accountholders.

However, in the case of an Event of Default under Condition 10 (*Events of Default*) or in case of a Closure Event, the Issuer will recognise that each Person who is for the time being shown in the records of Clearstream and/or Euroclear (as applicable) as the holder of a particular nominal amount of the Notes shall be entitled to enforce its rights and the obligations of the Issuer under the Notes and exercise the rights of a Holder of that nominal amount of Notes pursuant to Clearstream and/or Euroclear's standard procedures and subject to any mandatory provisions of any applicable laws.

3.5 Records of the Central Depository

The records of the Central Depository and the records of the members of the Central Depository shall be evidence of the identity of the Accountholders and the number of Notes credited to the Account of each Accountholder. For these purposes a statement issued by the Central Depository stating:

- (i) the name of the Accountholder to which the statement is issued, and
- (ii) the aggregate nominal amount of Notes credited to the Accounts of the Accountholders,

at the relevant time or date as set out in such statement, shall be a conclusive evidence as to the identity of the Accountholders.

4. STATUS OF THE NOTES

The Notes constitute direct, general, unconditional, unsubordinated and unsecured obligations of the Issuer and rank *pari passu* without any preference among themselves and at least *pari passu* with all other direct, general, unconditional, unsubordinated and unsecured obligations of the Issuer, present and future, save for such obligations as may be preferred by provisions of law that are mandatory and of general application to creditor rights.

5. INTEREST

5.1 Interest Rate and Interest Payment Dates

The Notes shall be issued as notes bearing fixed interest that shall be equal to the Rate of Interest. The Notes shall bear interest from and including the Issue Date at the Rate of Interest payable annually in arrear on each Interest Payment Date in the manner set forth in Condition 7 (*Payments*). The first payment (representing a full year's interest) shall be made on 15 November 2013.

5.2 Accrual of Interest

Each Note shall bear interest from and including the Issue Date or an Interest Payment Date to but excluding the next Interest Payment Date or the Maturity Date, as the case may be. Each Note will cease to bear interest from the relevant payment date unless payment of the principal is improperly withheld or refused, in which case it will continue to bear interest at the Rate of Interest up to but excluding the date on which the principal has been paid in full.

5.3 Calculation of Broken Interest

When interest is required to be calculated in respect of a period of less than a full year, it shall be calculated on the basis of (a) the actual number of days in the period from and including the date from which interest begins to accrue (the "Accrual Date") to but excluding the date on which it falls due or on which the principal is paid in full in accordance with Condition 5.2 (Accrual of Interest) (as applicable) divided by (b) the actual number of days from and including the Accrual Date to but excluding the next following Interest Payment Date or, if there is no such following Interest Payment Date, to but excluding 15 November in the calendar year immediately following after the calendar year of which the Accrual Date is a part.

6. REDEMPTION AND PURCHASE

6.1 Redemption at Maturity

Unless previously purchased and cancelled as provided below, each Note shall be redeemed by payment by the Issuer of amount equal to the Denomination on the Maturity Date.

6.2 Purchase

The Issuer may purchase Notes in the open market or otherwise at any price and at any time. The Issuer may cancel any such Notes or it may hold them and/or resell them.

6.3 Cancellation

All Notes which are redeemed will forthwith be cancelled, and accordingly may not be reissued or resold. Other than as provided in Condition 6.2 (*Purchase*), the Notes in respect of which the Early Termination Amount has been paid in full shall be deemed to have been redeemed for the purposes of the preceding sentence

6.4 No Other Redemption

The Issuer shall not be entitled to redeem the Notes and the Holders shall not be entitled to require the Issuer to redeem the Notes other than as provided in Condition 6.1 (*Redemption at Maturity*) above, subject to Condition 10 (*Events of Default*).

7. PAYMENTS

7.1 Method of Payment

All payments of principal and interest on the Notes shall be made through ARDAL by wire transfer in accordance with the applicable legislation and as provided herein. The place of payment shall be the address of ARDAL referred to in Condition 12.2 (*Address*).

7.2 Payments of Principal

The Issuer is obliged to repay the principal of the Notes on the Maturity Date as specified in this Condition 7.2. The Accountholder registered as the Accountholder in respect of the relevant Notes immediately before the Central Depository opens for business on the relevant payment date shall be entitled to receive the principal payment on the Notes, which shall be made by wire transfer to the account specified by the Accountholder in the Payment Information Form on the relevant payment date. The payment obligation shall be treated as discharged in full by the Issuer when an irrevocable instruction is given to the relevant payment system and the payment is debited from the relevant account of the Issuer.

7.3 Interest

The Issuer is obliged to pay the interest payments on each Interest Payment Date as specified in this Condition 7.3. The Accountholder registered as the Accountholder in respect of the relevant Notes immediately before the Central Depository opens for business on each Interest Payment Date or other date for the payment of interest shall be entitled to receive the interest payment on the Notes which shall be made by wire transfer to the account specified by the Accountholder in the Payment Information Form on the relevant Interest Payment Date or other date for the payment of interest. The payment obligation shall be treated as discharged in full by the Issuer when an irrevocable instruction is given to the relevant payment system and the payment is debited from the relevant account of the Issuer.

7.4 Payments subject to Applicable Laws

All payments in respect of the Notes are subject in all cases to any applicable fiscal or other laws and regulations in the place of payment, but without prejudice to the provisions of Condition 9 (*Taxation*). No commissions or expenses shall be charged by the Issuer in respect of such payments.

7.5 Notification of Payment Information

Each Accountholder is obliged to provide the Issuer with sufficient information to allow the Issuer to effect the interest and/or principal payment in relation to any Notes of which such person is a Accountholder. For this purpose, each Accountholder is obliged to complete and deliver to ARDAL the form appearing on the website of ARDAL at: www.ardal.sk/en/government-securities/documents in English language and on the website of ARDAL at: www.ardal.sk/sk/statne-cenne-papiere/dokumenty in Slovak language (there are different forms for the Accountholder being a natural person and the Accountholder being a legal person) (the "Payment Information Form") at least 10 Business Days prior to each Interest Payment Date or Maturity Date (the "Submission Deadline"). The Payment Information Form must be signed by person(s) authorized to act on behalf of the Accountholder.

If the Accountholder is a legal person the Payment Information Form must have attached to it the current extract from the commercial, trade or company register in which such Accountholder is registered.

The fact that the Accountholder does not disclose in the relevant Payment Information Form the identity and tax residency status of the beneficial owners for whose benefit such Accountholder holds the relevant Notes shall not prejudice the rights under Condition 9 (*Taxation*).

If the relevant Accountholder holds any Notes for a Holder, Euroclear and/or Clearstream and it shall be under the applicable laws required to make any withholding or deduction as contemplated by Condition 9 (*Taxation*), the Payment Information Form shall among other information include information on any additional amounts that shall be payable in accordance with Condition 9 (*Taxation*).

The Payment Information Form must be delivered either:

- (i) in hard copy to the address of ARDAL referred to in Condition 12.2 (Address); or
- (ii) by facsimile to one of the following numbers: +421 2 57262 525 / +421 2 5245 0381; or
- (iii) in the form of scanned documents by email to the following electronic mail address: ardal@ardal.sk.

In the event that multiple Payment Information Forms relating to one Accountholder are received by ARDAL, the latest to have been received by ARDAL shall be treated as definitive.

Any of the above contact details may be changed by ARDAL by publishing new contact details on its website: www.ardal.sk, where the information shall be published both in Slovak and English. Such new contact details shall take effect on the date specified on the website, but not earlier than one calendar month after the information is published on such website.

7.6 Non-Notification of Payment Information

If the Payment Information Form together with its attachments is not delivered to ARDAL on or before the Submission Deadline in accordance with Condition 7.5 (*Notification of Payment Information*) above, the Issuer shall make payment of the relevant sums 10 Business Days after the due delivery of the Payment Information Form together with its attachments.

Any payment made in accordance with this Condition 7.6 (*Non-Notification of Payment Information*) shall be treated as a payment made in a due and timely manner and the Issuer expressly disclaims any liability for making any such payments in the manner described.

7.7 Payment Day

If the date for payment of any amount in respect of any of the Notes is not a Business Day, the Accountholder thereof shall not be entitled to payment until the next following Business Day in the relevant place and shall not be entitled to further interest or other payment in respect of such delay.

7.8 General Provisions Applicable to Payments

The Accountholders shall be the only persons entitled to receive payments in respect of the Notes and the Issuer will be discharged by payment to, or to the order of, the Accountholders in respect of each amount so paid. Each of the persons shown in the records of Clearstream or Euroclear as the holder of a particular nominal amount of the Notes must look solely to Clearstream or Euroclear, as the case may be, for his share of each payment so made by the Issuer to, or to the order of, the Accountholders. However, where a Closure Event prevents the payments being made to such persons, the Persons shown for the time being in the records of Clearstream and/or Euroclear (as applicable) shall have the right to receive the payments directly from the Issuer subject to Condition 3.4 (*Direct Rights*).

8. PRESCRIPTION

Any rights under the Notes shall become unenforceable after the lapse of a 10-year period from (i) the relevant Interest Payment Date, in the case of the right to claim an interest payment, (ii) the Maturity Date, in the case of the right to claim a principal payment, and (iii) the first day on which such right could have been enforced under law, in the case of any other right, as the foregoing may be modified by an amendment or replacement of the relevant provisions of the Bonds Act.

9. TAXATION

9.1 Payment without Withholding

All payments of principal and interest in respect of the Notes by or on behalf of the Issuer, and in addition, any payments of principal or interest by any Slovak entity, shall be made free and clear of, and without withholding or deduction for or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or on behalf of the Slovak Republic or any political subdivision therein or any authority therein or thereof having power to tax (the "Taxes"), unless the withholding or deduction of the Taxes is required by law. In that event, the Issuer shall pay such additional amounts as will result in receipt by each Holder and each Person who is for the time being shown in the records of Clearstream and/or Euroclear as the holder of a particular nominal amount of the Notes (the "Recipient") after such withholding or deduction of such amounts as would have been received by them had no such withholding or deduction been required, except that no such additional amounts shall be payable in respect of any Note to a Recipient, if such Recipient is liable to the Taxes in respect of such Note by reason of the Recipient being (i) an individual who is tax resident in the Slovak Republic, (ii) a legal person tax resident in the Slovak Republic established for purposes other than to engage in business activities; (iii) the National Bank of Slovakia, or (iv) the Fund of National Property of the Slovak Republic.

9.2 Additional Amounts

Any reference in these Conditions to any amounts payable in respect of the Notes shall be deemed also to refer to any additional amounts which may be payable under this Condition 9.

10. EVENTS OF DEFAULT

The following events or circumstances (each an "Event of Default") shall be acceleration events in relation to the Notes, namely:

- (i) if the Issuer fails to pay any principal or interest in respect of any Notes when due and the default continues for a period of 30 Business Days; or
- (ii) if the Issuer fails to perform or comply with any of its other obligations in respect of the Notes which default is incapable of remedy or, if capable of remedy, is not remedied 45 days after written notice of such default has been given to the Issuer.

If any Event of Default shall occur in relation to any Notes, all of the Notes may, by written notice addressed and delivered by the Accountholders (subject to Condition 3.4 (*Direct Rights*)) holding at least 25 per cent. of the aggregate principal amount of the Notes then outstanding to ARDAL in

accordance with Condition 12.1 (*Notices to the Issuer*), be declared immediately due and payable, whereupon, unless the Issuer shall have cured or otherwise rectified the relevant Event of Default, the Notes shall become due and payable at the Early Termination Amount. Notice of any such declaration shall promptly be given to all Holders by the Issuer.

If the Issuer receives notice in writing from Accountholders, subject to Condition 3.4 (*Direct Rights*), in respect of at least 50 per cent. of the aggregate principal amount of the Notes then outstanding to the effect that Event(s) of Default giving rise to such declaration is or are cured or is or are waived by them following any such declaration and such Accountholders request that the Issuer disregard the relevant declaration, the rights and obligations of the Holders, the Accountholders and the Issuer shall be treated as if there were no such declaration and the Issuer shall give notice thereof to all Holders. No such action by the Accountholders shall affect any other or any subsequent Event of Default or any right of any Accountholder in relation thereto.

For the purposes of this Condition 10 (*Events of Default*) and for the purposes of determination of whether the thresholds specified above have been reached, any Notes held by a Holder that is the Issuer (including any ministry, political sub-division, department or agency thereof), an agent thereof or a trustee therefor shall not be treated as being outstanding as of the relevant date and the relevant Accountholder in respect of such Notes shall have no right to give any notice pursuant to this Condition 10 (*Events of Default*).

11. SALE OF NOTES AND FURTHER ISSUES

The maximum nominal value of the Notes issued under these Conditions shall be equal to the Authorised Amount. The Issuer shall initially sell the Notes in the aggregate par value at its discretion by way of subscription of such Notes by the managers appointed by the Issuer in accordance with the relevant subscription agreement. The Issuer may from time to time without the consent of Accountholders or Holders create and issue further Notes, having terms and conditions same as the Notes that have already been issued, which shall be consolidated and form a single series with any outstanding Notes. The Issuer may sell any number of such subsequently issued Notes either (i) by way of subscription of such Notes by a syndicate or manager (dealer in securities); (ii) by way of auction of such Notes open to the participants in the primary market organised by ARDAL in accordance with the rules issued by ARDAL; or (iii) by other means as the Issuer may deem fit in its sole discretion.

The anticipated issue period of the Notes is from the Issue Date until 31 December 2017.

Issue price of the Notes is not limited and shall be determined by the Issuer from time to time whenever any portion of the Notes is sold.

12. NOTICES

12.1 Notices to the Issuer

Any communication addressed to the Issuer to be made under or in connection with the Notes shall be made in writing by letter or by fax sent to ARDAL at the address or fax number specified in Condition 12.2 (*Address*) below, unless otherwise provided herein.

12.2 Address

All communications in writing must be delivered to the following address:

Agentúra pre riadenie dlhu a likvidity Radlinského 32 813 19 Bratislava Slovenská republika

If communication is made by fax, it must be sent to one of the following numbers: +421 2 57262 525 / +421 2 5245 0381.

Any of the above contact details may be changed by ARDAL by publishing new contact details on its website: www.ardal.sk, where the information shall be published both in Slovak and English. Such new contact details shall take effect on the date specified on the website, but not earlier than one calendar month after the information is published on such website.

12.3 Delivery

Any communication or document made or delivered to the Issuer in connection with the Notes will be effective (i) if made by fax, when transmitted to ARDAL and (ii) if sent by post or courier, on the second Business Day after the day of sending to ARDAL; without prejudice to the provisions of Condition 7.6 (*Non-Notification of Payment Information*).

12.4 Language

Any notice given under or in connection with any Notes must be made in Slovak or English.

12.5 Notices to Holders and Accountholders

Unless otherwise provided herein, any notices to the Holders and/or the Accountholders shall be made (i) by publication of the relevant notice on the website of ARDAL at www.ardal.sk; and (ii) by publication of the relevant notice in (1) a nationwide periodical newspaper in the Slovak Republic publishing stock exchange news and (2) a leading English-language daily newspaper having general circulation in Europe (which is expected to be *The Financial Times*). In any event, the notices shall also be published in such other manner as may be required by the rules and regulations of any stock exchange on which the Notes are listed and/or traded or other relevant authority the rules and regulations of which apply to the Notes at the relevant time. The notices to the Holders and/or the Accountholders shall be made both in Slovak and English. Any such notice will be deemed to have been given on the date of first publication or, where required to be published in more than one newspaper, on the date of first publication in all required newspapers.

13. ROUNDING

For the purposes of any calculations referred to in these Conditions, unless otherwise specified in these Conditions, (a) all percentages resulting from such calculations will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point (with 0.000005 per cent., being rounded up to 0.00001 per cent.), and (b) all amounts in euro will be rounded to the nearest cent (with one half cent being rounded up). No rounding will be applied to any intermediate calculations and only the final sum that is to be paid to the respective Person on a single occasion shall be rounded in accordance with the foregoing.

14. ADMISSION OF THE NOTES TO STOCK EXCHANGE

An application shall be made to admit the Notes to trading on the main listed market of the Bratislava Stock Exchange (Burza cenných papierov v Bratislave, a.s.), with its registered seat at Vysoká 17, 811 06 Bratislava, Slovak Republic, registered in the Commercial Register maintained by the District Court Bratislava I, Section: Sa, Insert No.:117/B. Notes may also be admitted to listing, trading and/or quotation on any other listing authorities, stock exchanges, regulated markets and/or quotation systems as the Issuer sees fit.

15. FINANCIAL RESOURCES FOR REPAYMENT OF THE NOTES

Any and all payments to be made under the Notes shall be funded from the financial resources allocated for that purpose by the state budget for the relevant year that will either come from (i) the resources received by the Issuer as income of the state budget, (ii) the resources obtained by issuance by the Issuer of any appropriate debt instruments or entering into with any party into appropriate credit arrangements or (iii) the privatisation sale of any assets of the Issuer.

16. WAIVER AND REMEDIES

The rights hereunder shall be in addition to all other rights provided by law. No notice or demand given in any case shall constitute a waiver of rights to take another action in the same, similar or other instances without such notice or demand.

17. GOVERNING LAW

These Conditions and any non-contractual obligations arising therefrom or connected with the Notes shall be governed by and construed in accordance with the law of the Slovak Republic.

18. JURISDICTION

18.1 Jurisdiction

The Issuer irrevocably agrees for the benefit of the Accountholders and Holders that the courts of the Slovak Republic shall have jurisdiction to hear and determine any suit, action or proceedings, and to settle any disputes which may arise out of or in connection with the Notes (respectively, "**Proceedings**" and "**Disputes**") and, for such purposes, it irrevocably submits to the non-exclusive jurisdiction of such courts.

The Issuer irrevocably waives any objection which it might now or hereafter have to the courts of the Slovak Republic being nominated as the forum to hear and determine any Proceedings and to settle any Disputes and agrees not to claim that any such court is not a convenient or appropriate forum.

18.2 Waiver of Immunity Against Execution

To the extent that the Issuer or any of its revenues, assets or properties shall be entitled to any immunity from suit, from the jurisdiction of any such court, from set-off, from attachment prior to judgment, from attachment in aid of execution of judgment, from execution of a judgment or from any other legal or judicial process or remedy, and to the extent that in any such jurisdiction there shall be attributed such an immunity, the Issuer irrevocably waives such immunity to the fullest extent permitted by the laws of such jurisdiction. Such waiver of immunities constitutes only a limited and specific waiver by the Issuer for the purposes of these Conditions and under no circumstances shall it be construed as a general waiver by the Issuer or a waiver with respect to proceedings unrelated to the Notes.

18.3 Excluded Assets

Notwithstanding the foregoing, under the laws of the Slovak Republic, the funds, assets, rights and general property of a military character controlled by a military or defence agency or authority of the Slovak Republic which participates in the defence of the Slovak Republic; or mineral resources, underground waters, natural resources and water streams of the Slovak Republic located in the Slovak Republic are immune from execution and attachment and any process in the nature thereof and the foregoing waiver shall not constitute a waiver of such immunity or any immunity from execution or attachment or process in the nature thereof with respect to the Slovak Republic's diplomatic missions in any jurisdiction outside the Slovak Republic or with respect to the assets of the Slovak Republic necessary for the proper functioning of the Slovak Republic as a sovereign power.

19. LANGUAGE

These Conditions are written in the Slovak and English language. The Slovak text shall be prevailing and binding.